Convergence of IT and Facilities Systems for Cost Savings
Focus on Data Driven Decision Making at Soka University of America

Inland Empire Tech Week 2009

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Soka University of America

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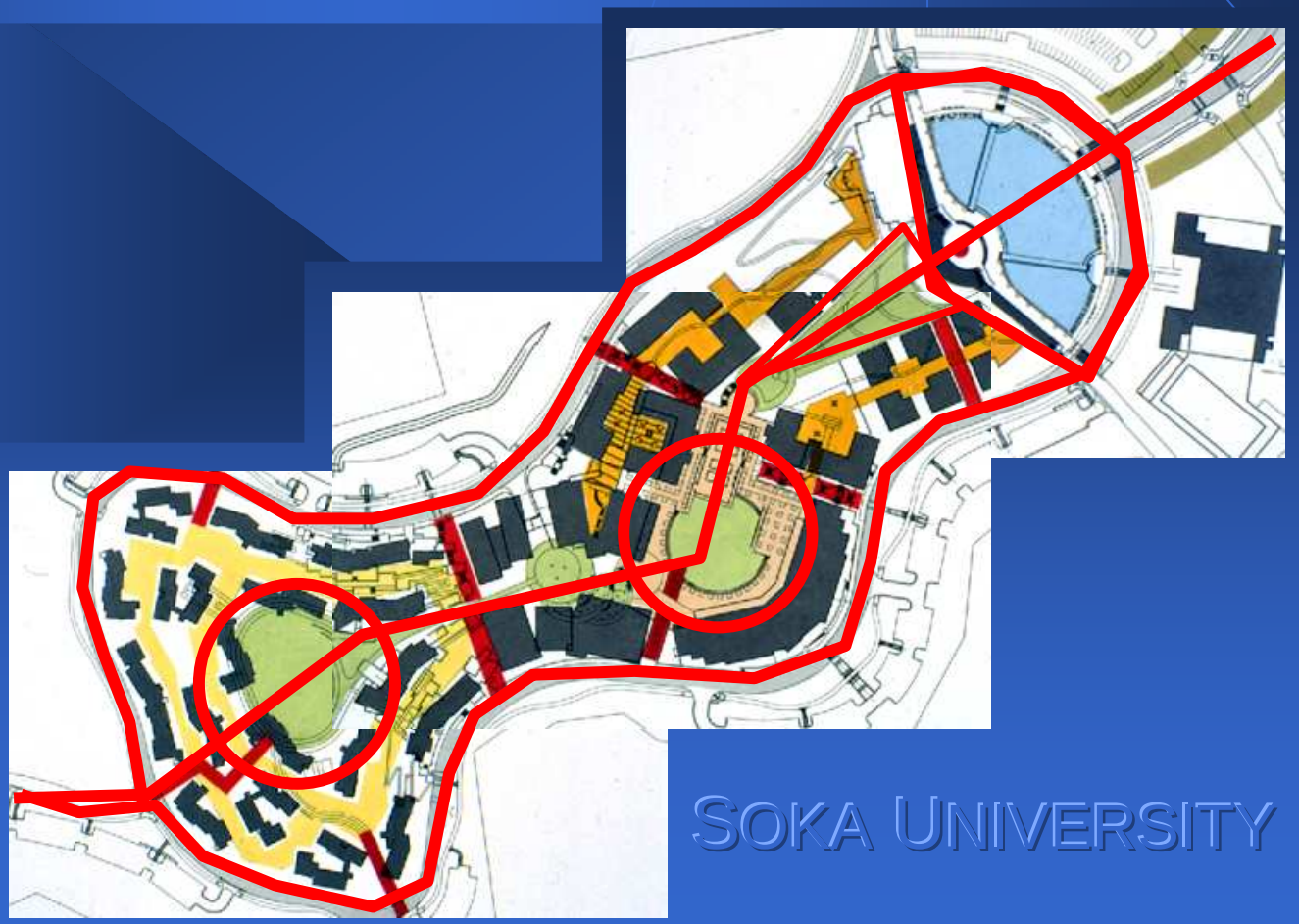
Soka University Master Plan



SOKA UNIVERSITY

Facts about the Soka Campus Facilities

- Phase I:
  - 18 Buildings (800,000 SF)
  - 10 Academic & Administrative Buildings
  - 8 Residential Buildings
- Full build-out (next 20 years):
  - 19 Academic & Administrative Buildings
  - 17 Residential Buildings
  - 36 Buildings (1.2 million SF)

SOKA UNIVERSITY

Facility Service Levels and Data Requirements

This matrix is a description of Facilities Management Service Levels with relation to budget and condition of facilities metrics. The budget metric is expressed as Budget divided by Current Replacement Value. The statistical modeling that APPA has done including the Strategic Assessment Model has shown this to be a reliable indicator in terms of level of service.

The other significant variable is the condition of facilities expressed as a Facility Condition Index (FCI). The FCI is the total amount of Capital Renewal and Deferred Maintenance needs divided by the Current Replacement Value (CRV) of the facilities. Since the Soka facilities are new and any capital renewal needs to date have been satisfied from the operating budget, the corresponding levels of service would be expectedly high. However, the fact that high levels of service are being performed for much less than most institutions struggling to provide basic services within their budget constraints speaks well of the Soka's facilities services fiscal management performance.

Facilities Service Levels

Level	1	2	3	4
Description	**Showpiece Facility**	**Comprehensive Stewardship**	**Managed Care**	**Reactive Management**
Customer Service & Response Time	Able to respond to virtually any service; immediate response	Response to most service needs, typically in a week	Services available only by reducing maintenance; response times of one month or less	Services available only by reducing maintenance; response times of one year or less
Customer Satisfaction	Proud of facilities; have a high level of trust for the facilities organization	Satisfied with facilities related services; usually complimentary of staff	Basic level of facilities care. Able to perform mission duties. Lack of pride in physical environment	Generally critical of cost, responsiveness, and quality of facilities services
PM vs. CM	100%	75 – 100%	50 – 75%	25 – 50%
Maintenance Mix	All PM is scheduled and performed on time. Emergencies (e.g. power outages) are infrequent and handled efficiently	A well developed PM program; PM done less than defined schedule. Occasional emergencies caused by equipment failures, etc.	Reactive maintenance high due to systems failing. High number of emergencies causes reports to upper management	Worn-out systems require staff to be scheduled to react to failure. PM work consists of simple tasks done inconsistently
Aesthetics, Interior	Like new finishes	Clean, crisp finishes	Average finishes	Dingy finishes
Aesthetics, Exterior	Windows, doors, trim, exterior walls are like new	Watertight, good clean appearance of exterior	Minor leaks and blemishes; average exterior appearance	Somewhat drafty and leaky, rough-looking exterior
Aesthetics, Lighting	Bright and clean, attractive lighting	Bright and clean attractive lighting	Small percentage of lights out; generally well lit and clean	Numerous lights out; missing diffusers; secondary areas dark
Service Efficiency	Maintenance activities appear highly organized and focused. Service and maintenance calls are responded to immediately	Maintenance activities appear organized with direction. Service and maintenance calls are responded to in a timely manner	Maintenance activities appear to be somewhat organized, but remain people dependant. Service/maintenance calls are sporadic w/out apparent cause	Maintenance activities are somewhat chaotic and people dependant. Service/ maintenance calls are typically not responded to in a timely manner
Building Systems' Reliability	Breakdown maintenance is rare and limited to vandalism and abuse repairs	Breakdown maintenance is limited to system components short of MTBF	Building and systems components periodically or often fail	Systems unreliable. Constant need for repair. Backlog repair exceeds resources
Operating Budget as % of CRV	>4.0	3.5 – 4.0	3.0 – 3.5	2.5 – 3.0
Campus Average FCI	<0.05	0.06 – 0.15	0.15 – 0.29	0.30 – 0.50

Southern California Liberal Arts College "X" 2005 Organizational Effectiveness Comparison

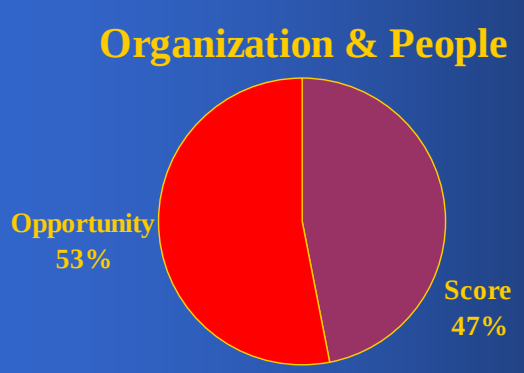
A local private and prestigious liberal arts university used a very sophisticated facilities management performance assessment tool two years ago in order to determine what their department should be focusing on during an organizational leadership change. They use an in-house workforce model.

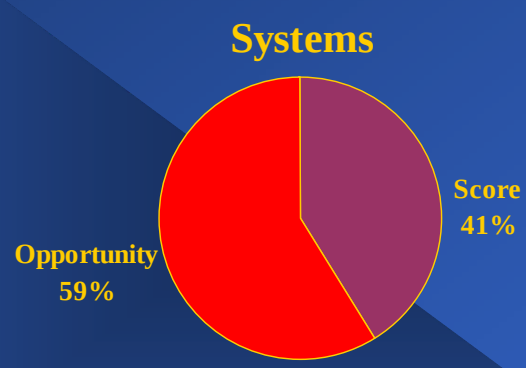
The results revealed significant opportunities for improvement in most all areas of service delivery. This performance assessment process was repeated in 2005 and although some advancement opportunities were accomplished, the overall performance of that organization had not notably progressed. This is not unusual for the pace of change of in-house workforce models due to resistance, complacency, and feeling of job security entitlement. Nonetheless, the assessment toll focused on the five basic areas of Facilities Management as shown on the first page and the "Rollup Score" was 38%. A score at this level reflects average "tactical" performance and what is existent in most Higher Education Facilities departments due to level of funding and condition of facilities.

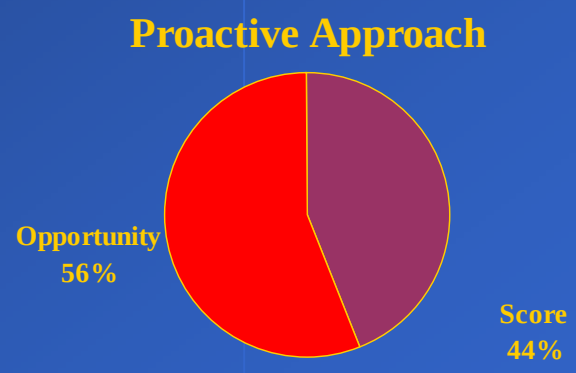
Southern California Liberal Arts College "X" 2005 Scoring Was Completed in Five Groups

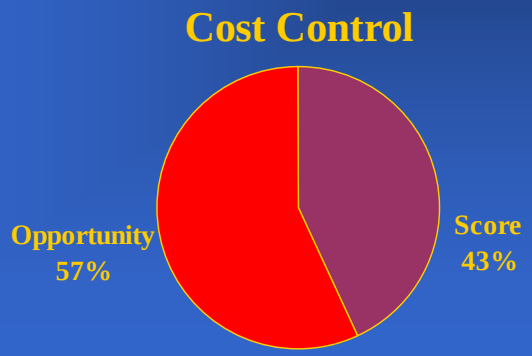
- **Organization & People**
  - Training
  - Structure
  - Contract Management
  - Craft skills
- **Systems**
  - CMMS
  - Parts & Supply
  - Planning & Scheduling
  - Work Order Process
- **Proactive Approach**
  - Preventive Maintenance
  - Predictive Maintenance
  - Proactive Maintenance
  - Reactive Maintenance
- **Cost Control**
  - Budget
  - Facility Management
  - Energy Management
  - Craft & Resource Utilization
- **Reliability**
  - Equipment History
  - Condition Based Maintenance
  - Failure Mode Analysis
  - Metrics/KPI's

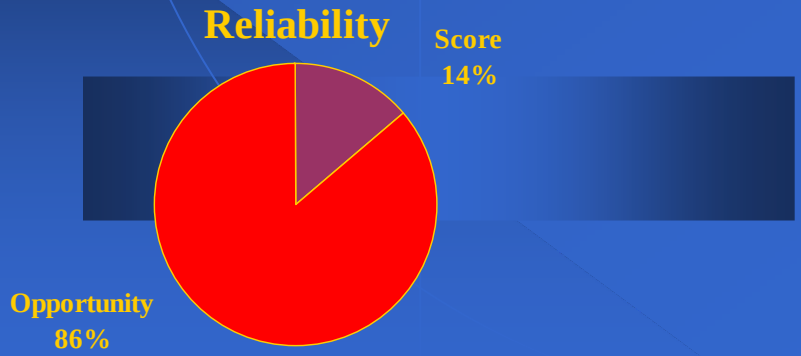
Southern California Liberal Arts College X 2005 Maintenance "Rollup" Effectiveness Score is 38%











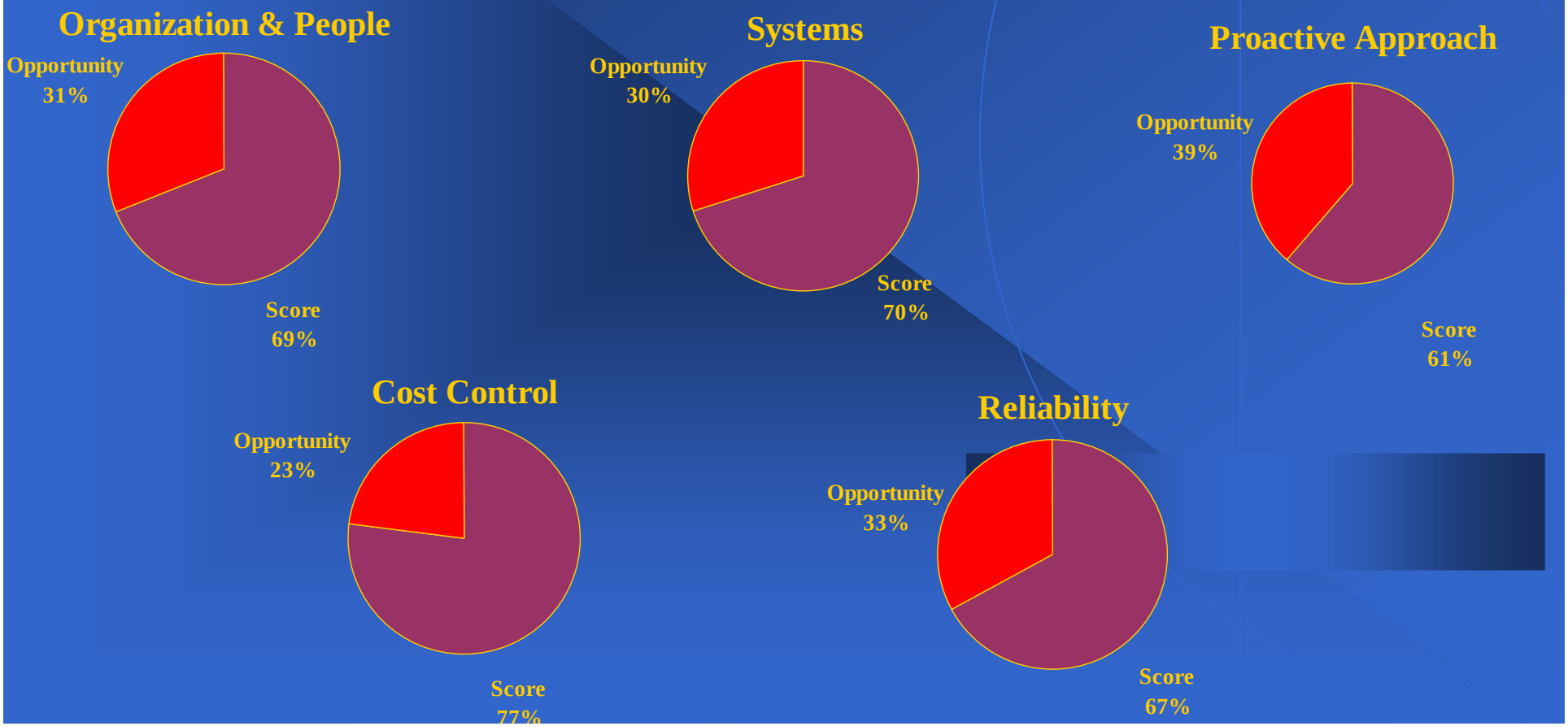
Soka University Organizational Effectiveness

These results are from the same performance assessment tool as University “X’s”. The overall “rollup” score is 69%. A score at this level demonstrates the incorporation of “Strategic” management into the routine work flow and operations. What this means is that there is a more optimum use of available resources. The progress made in organizational effectiveness from “tactical” to “strategic” compared to University “X” over the last two years is dramatic. This is largely due to the amount of leadership and know-how that Soka’s outsource provider, Facilities Services Partners, has brought to the campus. These results support the prior two sections of comparative costs and levels of services accordingly.

Soka University Organizational Effectiveness Scoring Was Completed in Five Groups

- Organization & People
  - Training
  - Structure
  - Contract Management
  - Craft skills
- Systems
  - CMMS
  - Parts & Supply
  - Planning & Scheduling
  - Work Order Process
- Proactive Approach
  - Preventive Maintenance
  - Predictive Maintenance
  - Proactive Maintenance
  - Reactive Maintenance
- Cost Control
  - Budget
  - Facility Management
  - Energy Management
  - Craft & Resource Utilization
- Reliability
  - Equipment History
  - Condition Based Maintenance
  - Failure Mode Analysis
  - Metrics/KPI's

Soka University Organizational Effectiveness Score is 69%



Key Performance Indicators (KPI's)

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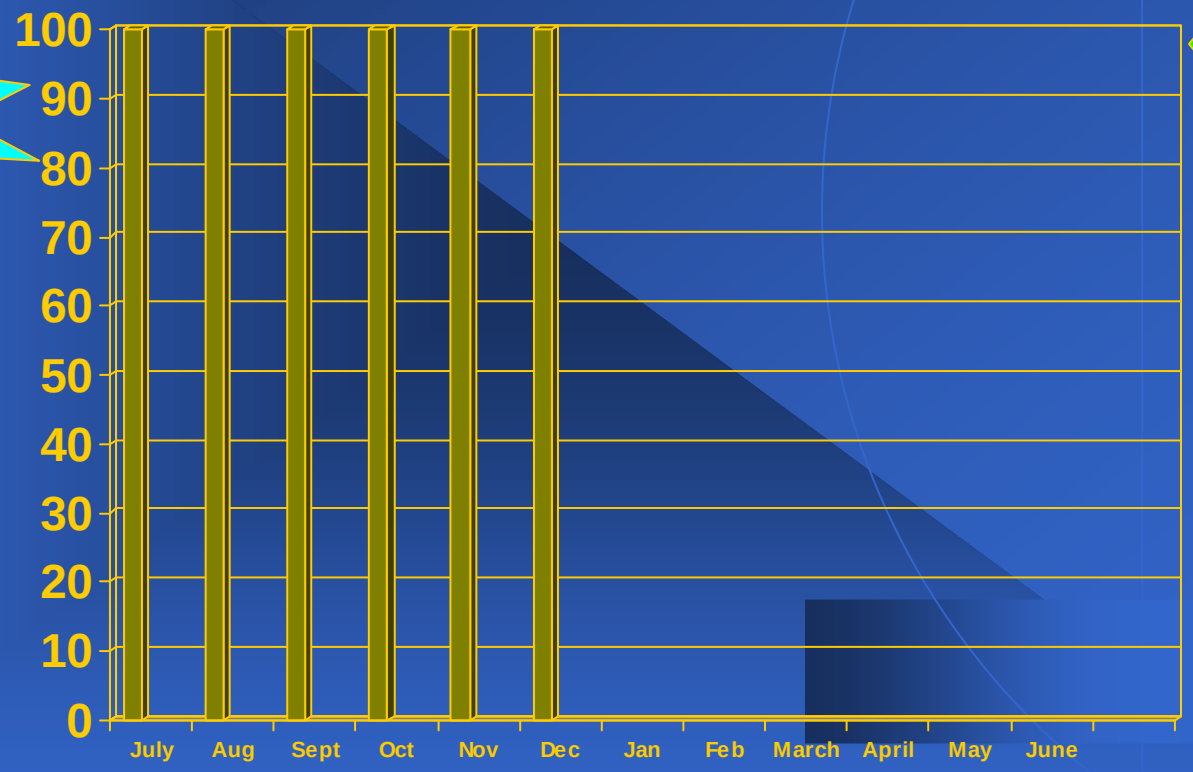
Safety: 39 employees (37 = F/T & 2 = P/T)
of lost time accidents

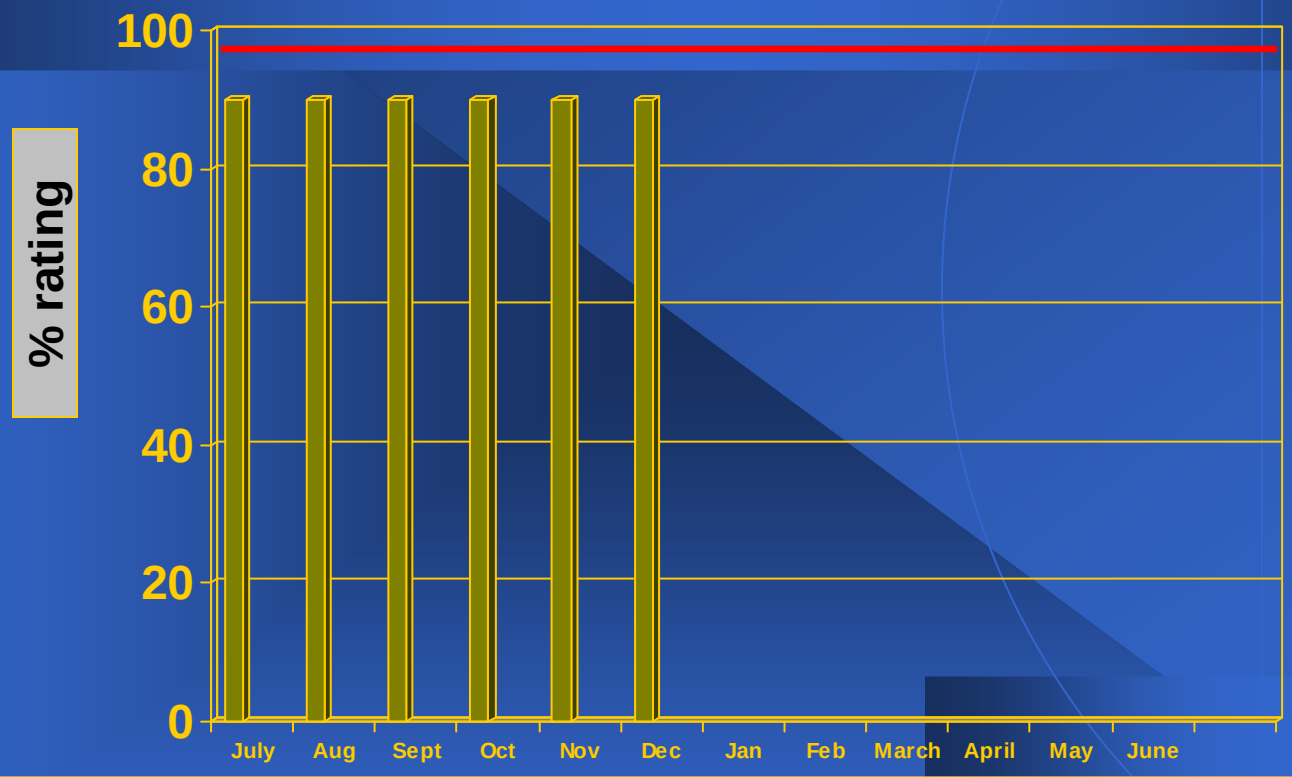
0 accidents!



Goal is 100%

5 = 50%
4 = 60%
3 = 70%
2 = 80%
1 = 90%
0 = 100%

Customer Satisfaction
90% customers satisfied or very satisfied with Help Line requests

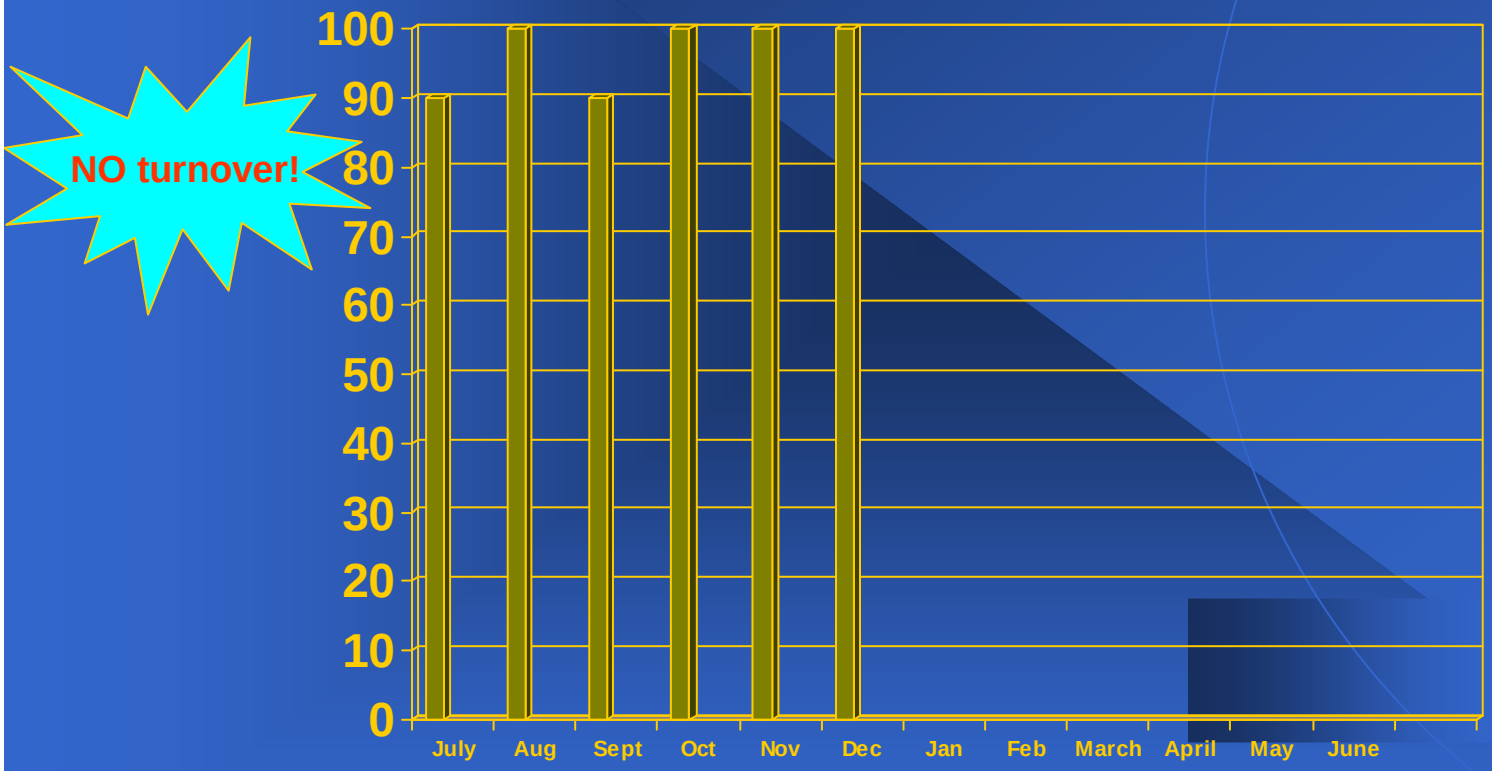


Goal is 80% or higher

Rating chart:

1 = 20% (Extremely dissatisfied) **2 = 40% (Very dissatisfied)**
3 = 60% (Less than satisfied) **4 = 80% (Satisfied)**
5 = 90% (Very satisfied) **6 = 100% (Extremely satisfied)**

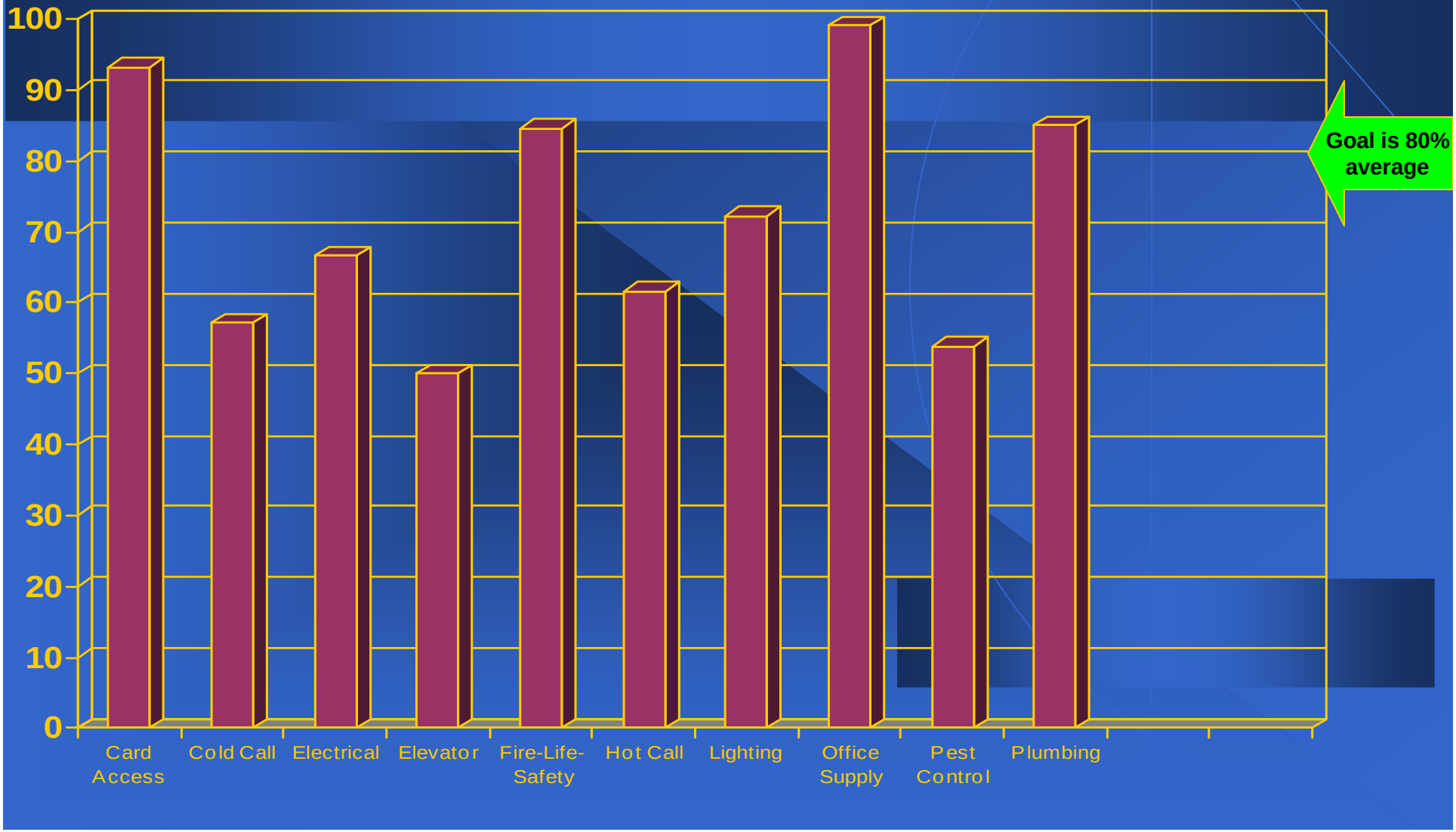
Employee Satisfaction
37 FT & 2 PT employees
Composite % of turnover (voluntary & involuntary)



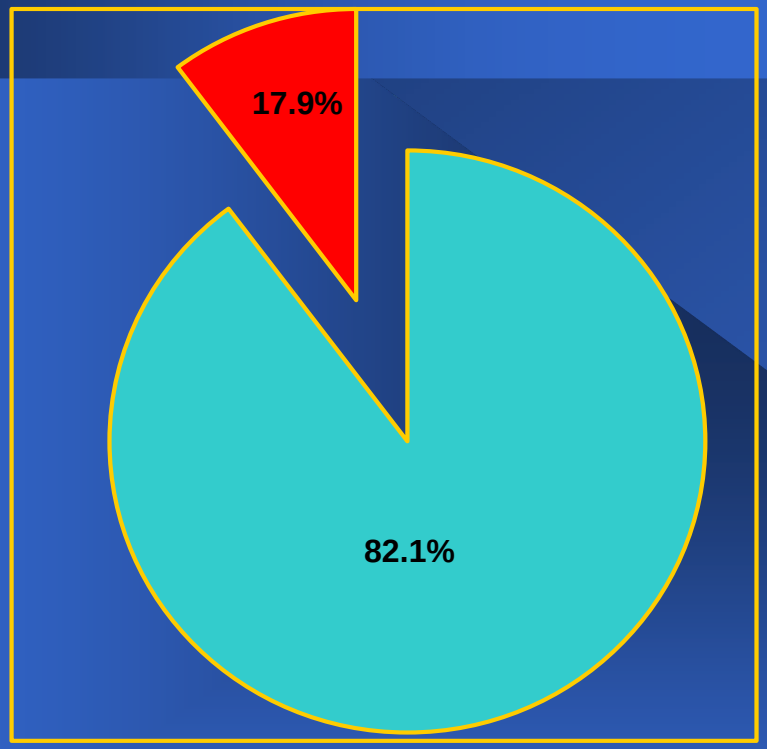
Goal is 80% or higher

5 = 50%
4 = 60%
3 = 70%
2 = 80%
1 = 90%
0 = 100%

Cycle time (by work request type)
Chart 1 of 2
Percentage fulfilled within 7 calendar days
All categories are considered #1, high priority, work orders
Looking for an overall average of 80% or better

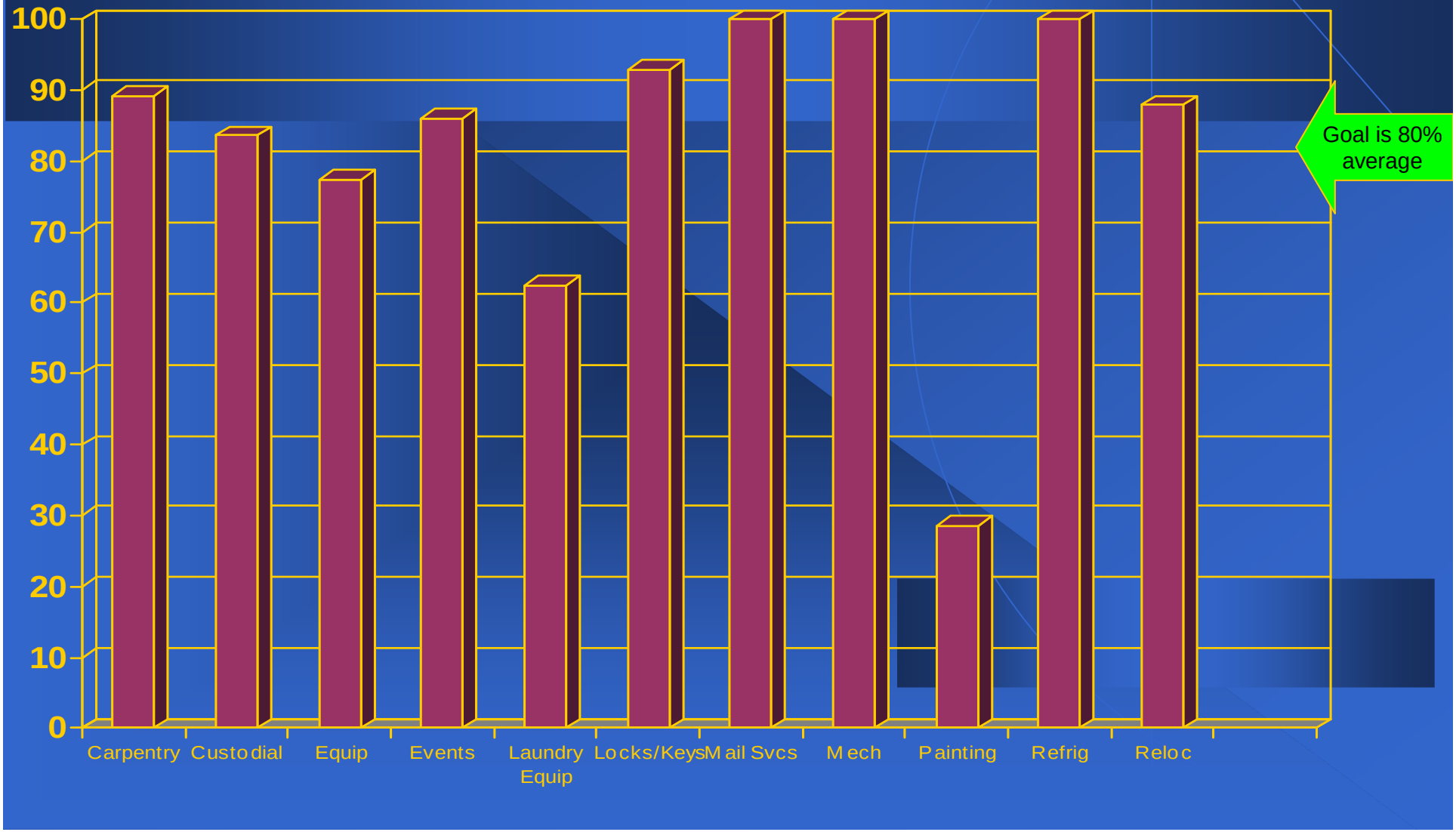


Cycle time (by work request type)
Goal is 80% average or better within 7 days
Chart 2 of 2
Percentage fulfilled within 7 calendar days
All categories are considered #1, high priority, work orders

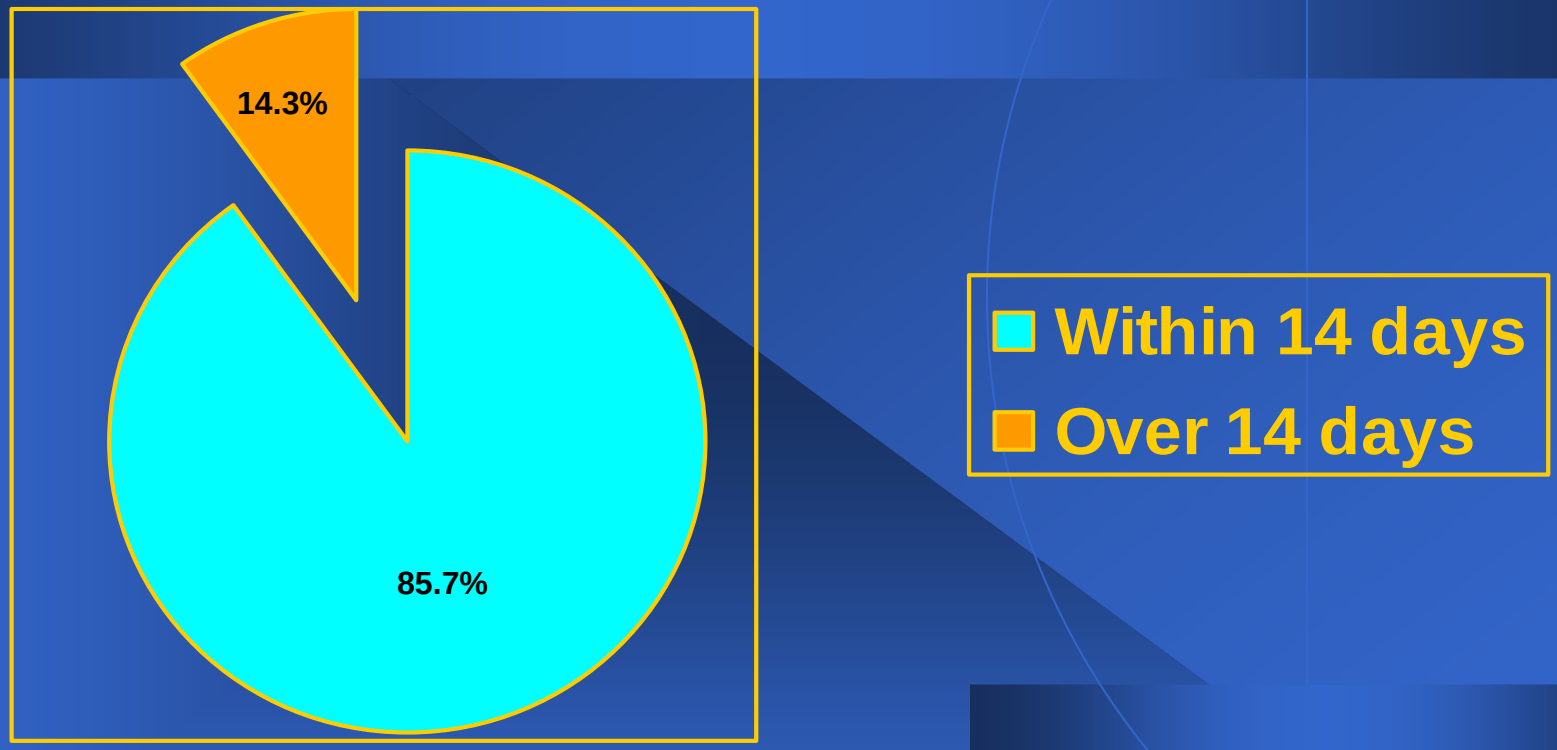


Within 7 days
Over 7 days

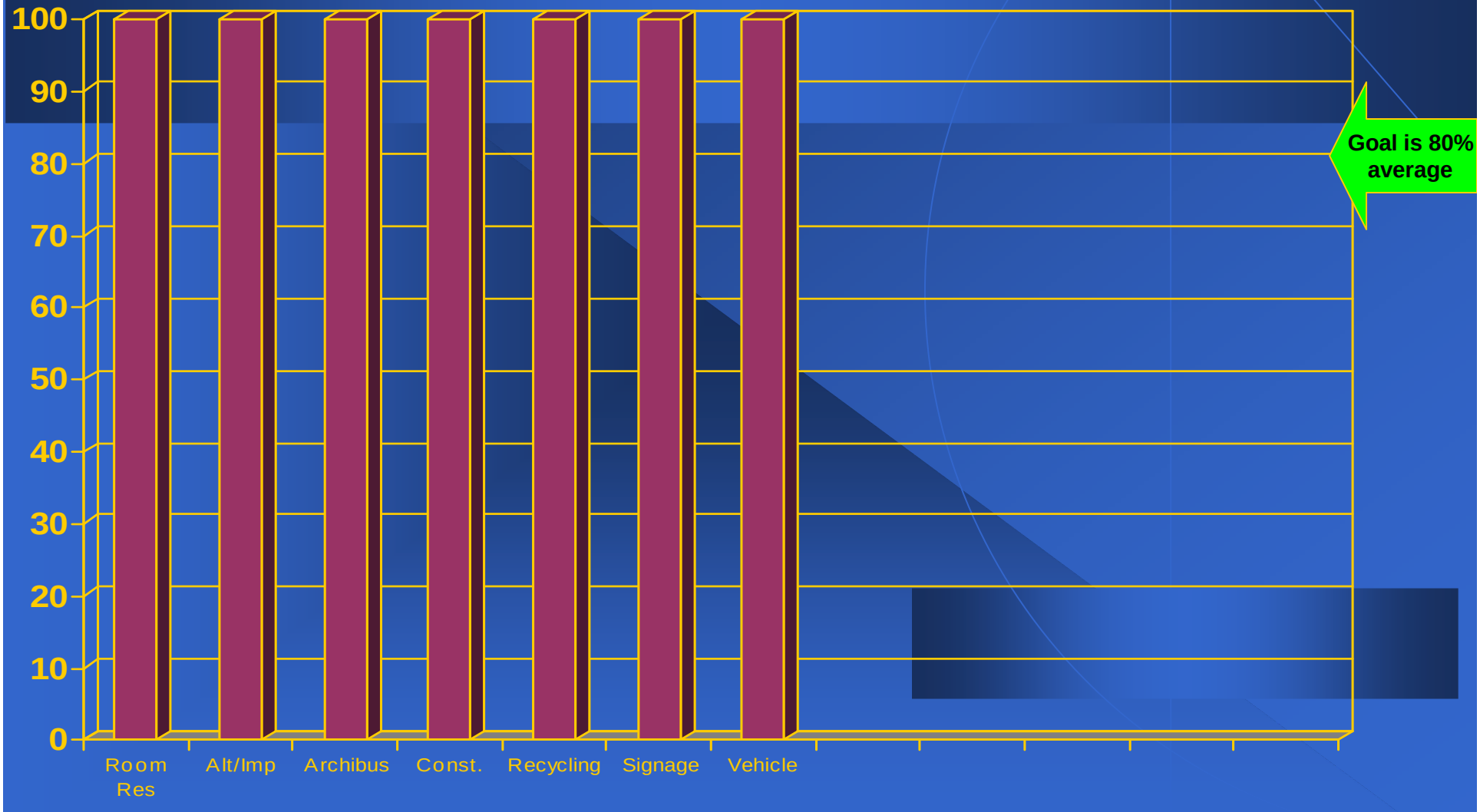
Cycle time (by work request type)
Chart 1 of 2
Percentage fulfilled within 14 calendar days
All categories are considered #2, mid priority, work orders
Looking for an overall average of 80% or better



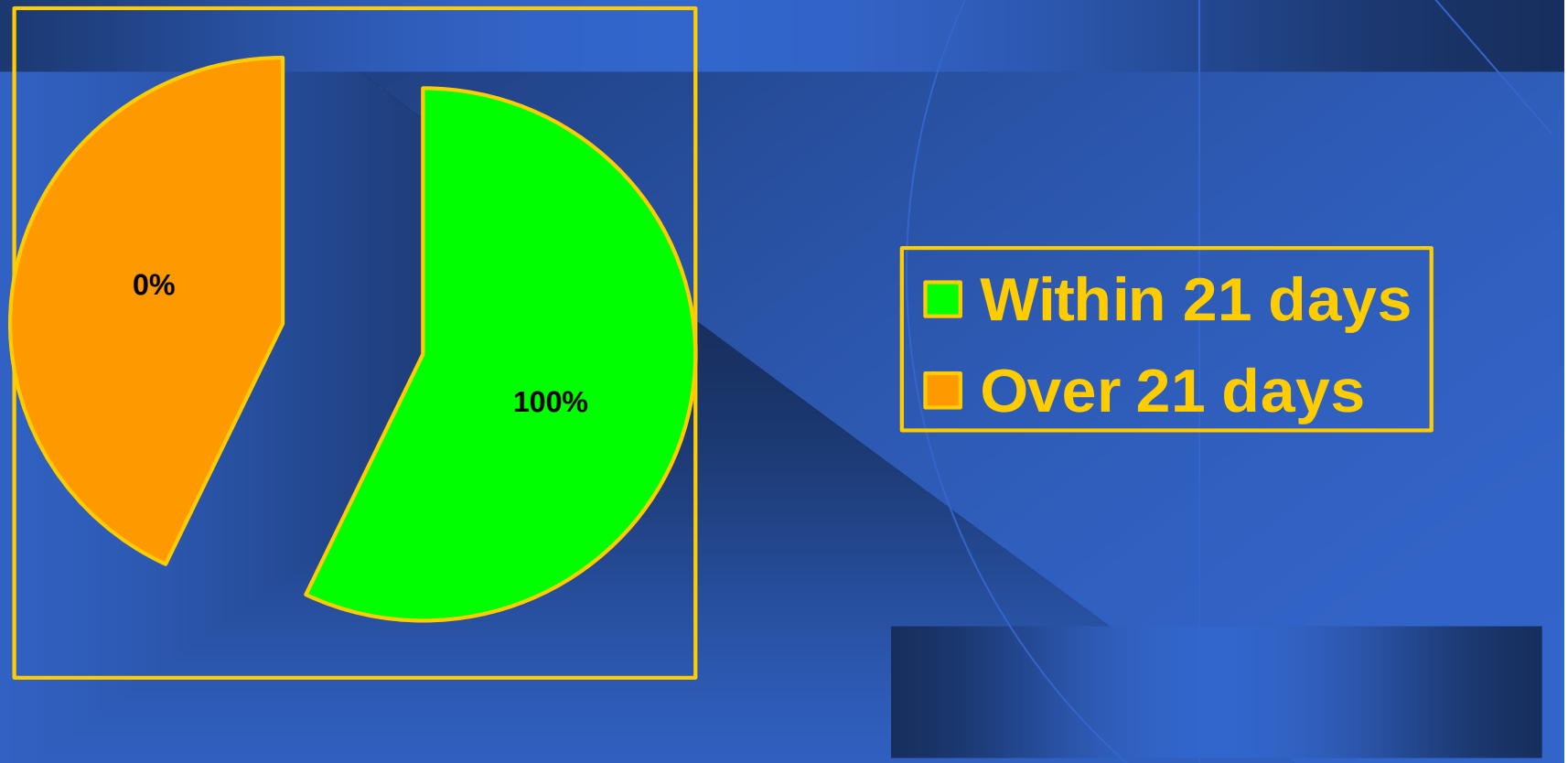
Cycle time (by work request type)
Goal is 80% average or better within 14 days
Chart 2 of 2
Percentage fulfilled within 14 calendar days
All categories are considered #2, mid priority, work orders



Cycle time (by work request type)
Chart 1 of 2
Percentage fulfilled within 21 calendar days
All categories are considered #3, lower priority, work orders
Looking for an overall average of 50% or better



Cycle time (by work request type)
Goal is 50% average or better within 21 days
Chart 2 of 2
Percentage fulfilled within 21 calendar days
All categories are considered #3, lower priority, work orders



Monthly Performance Metrics

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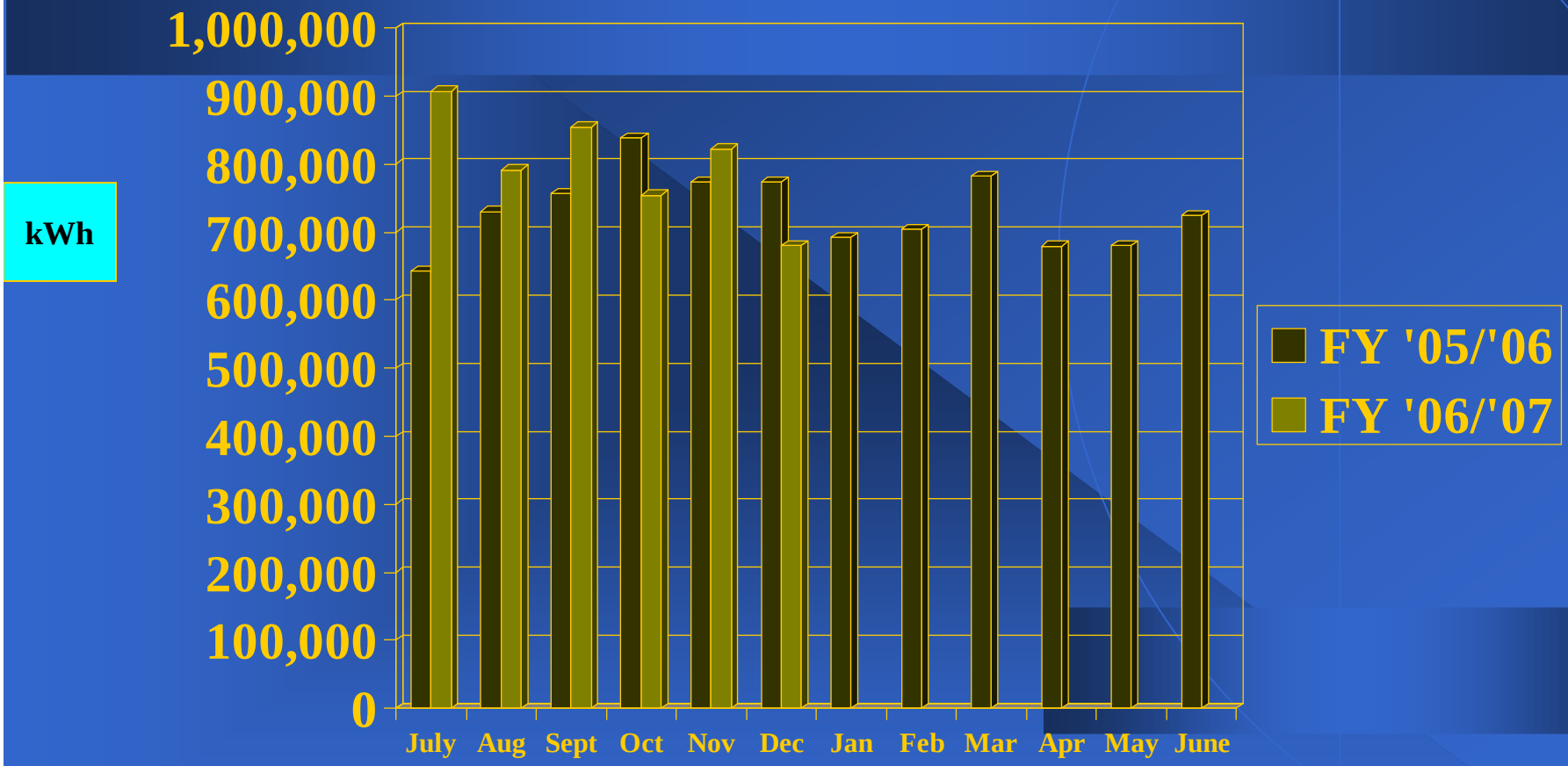
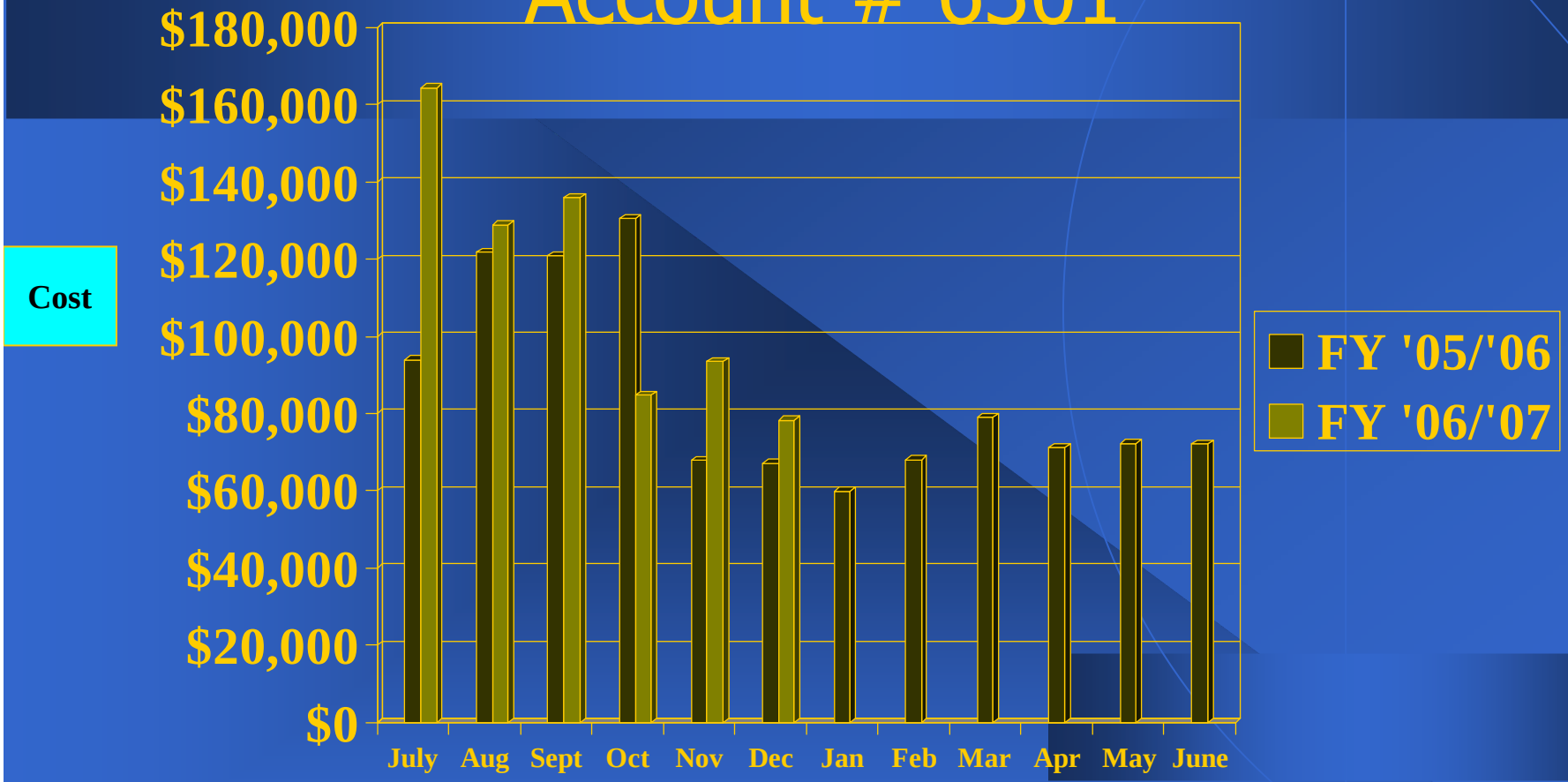
Purchased Electricity - kWh Comparison (FY '05/'06, & '06/'07) Account # 6301

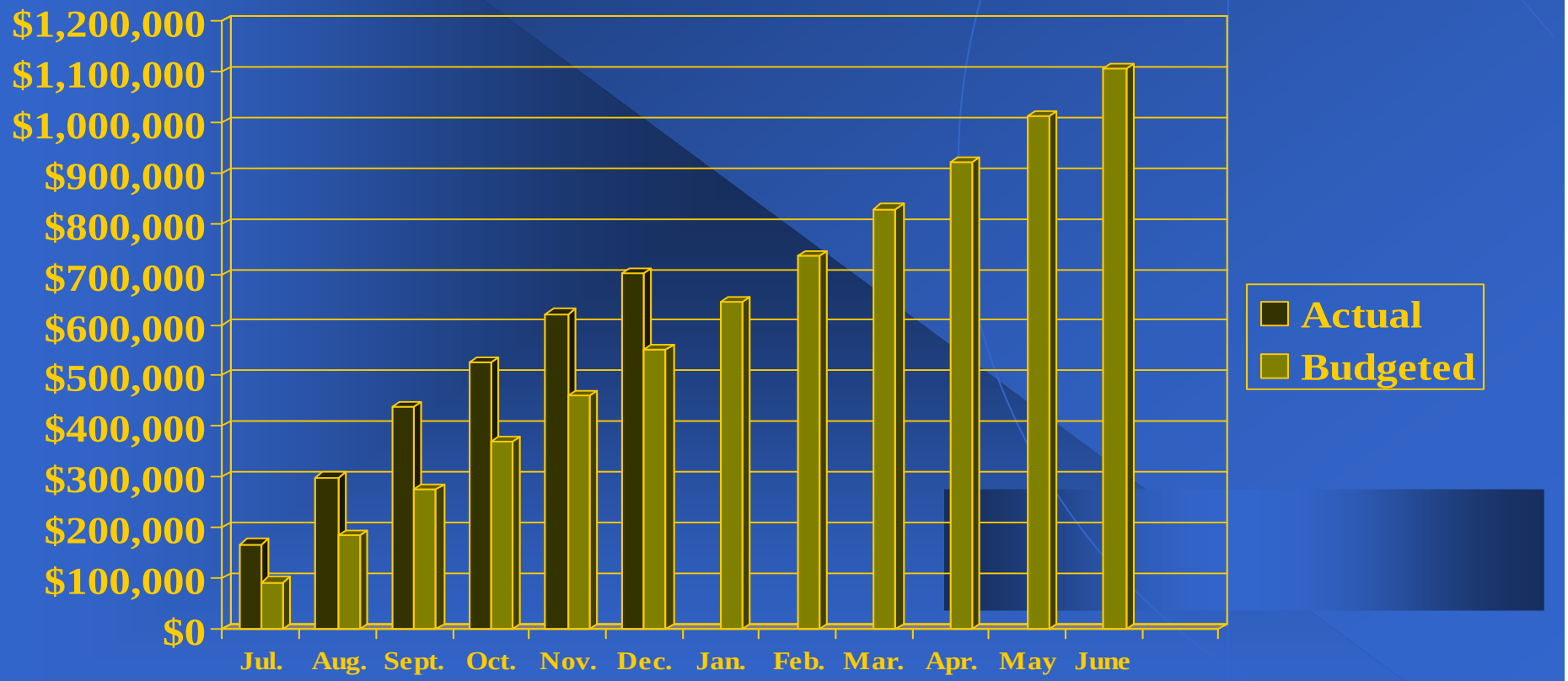


Purchased Electricity - Cost Comparison (FY '05/'06, and '06/'07) Account # 6301

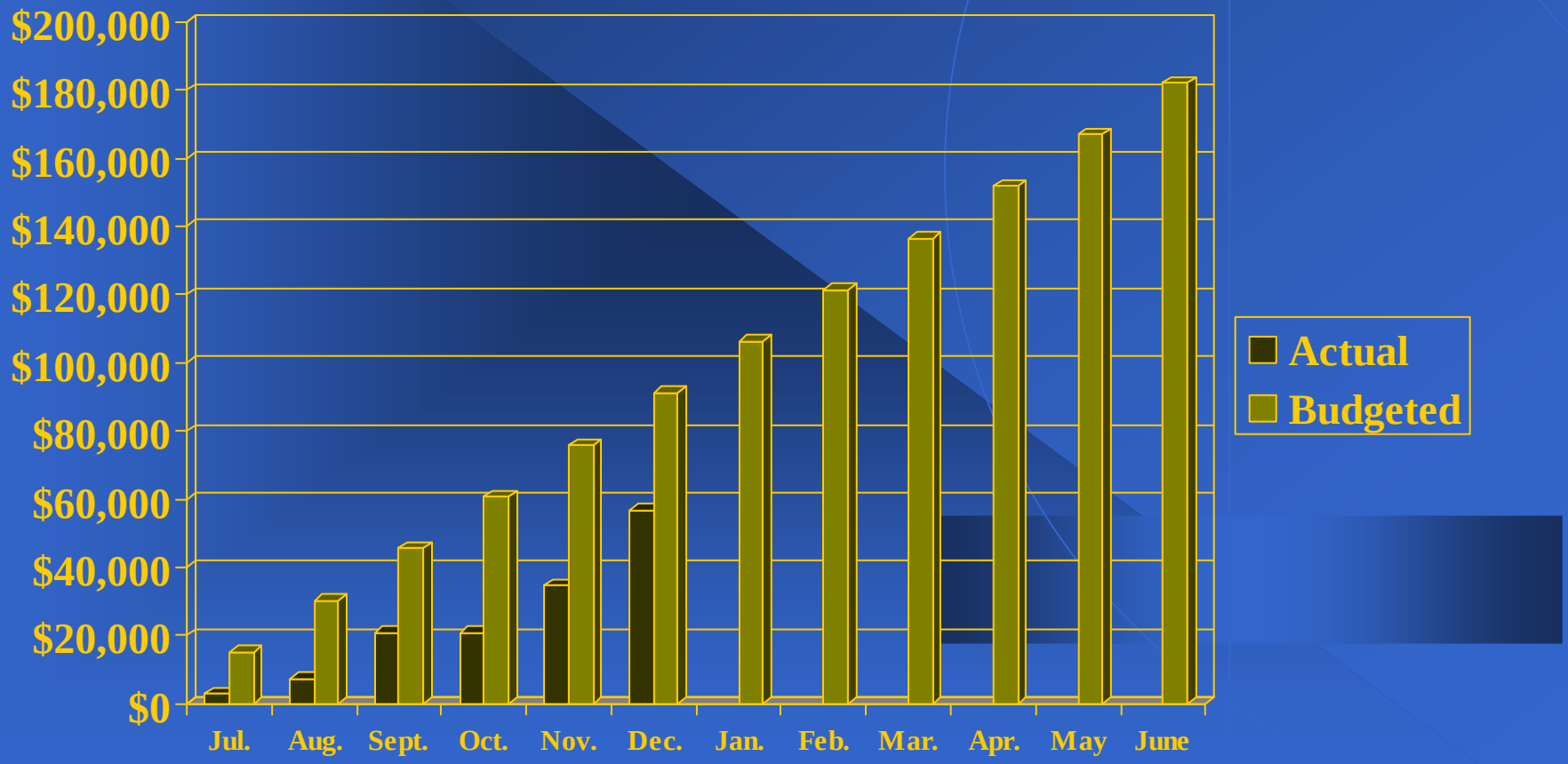


Note: October 2003 received a one-time credit of $49,855.30.

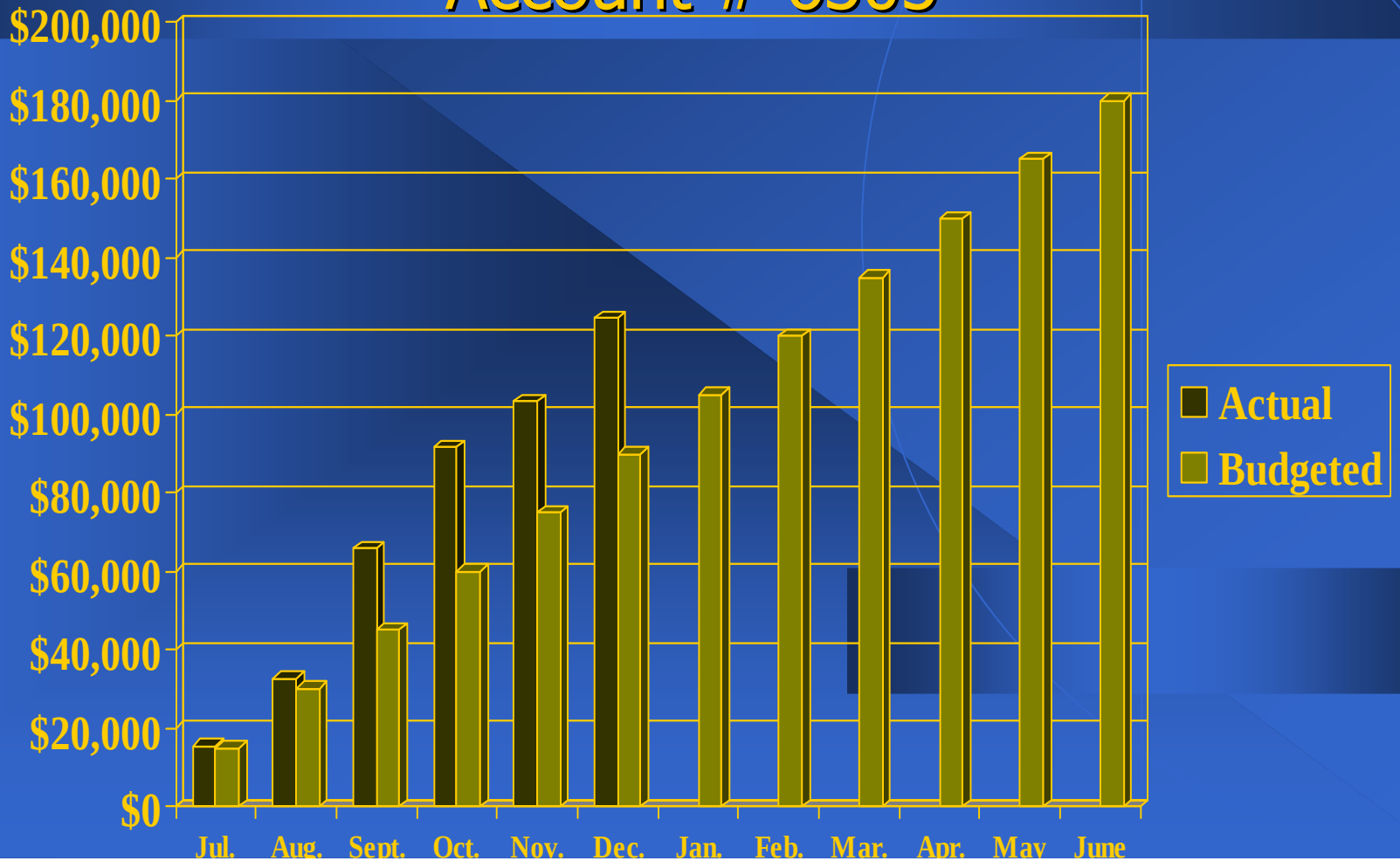
Purchased Utilities – ELECTRIC FY '06-'07 CUMULATIVE figures through month shown (per Soka's Budget Transaction Detail) Account # 6301



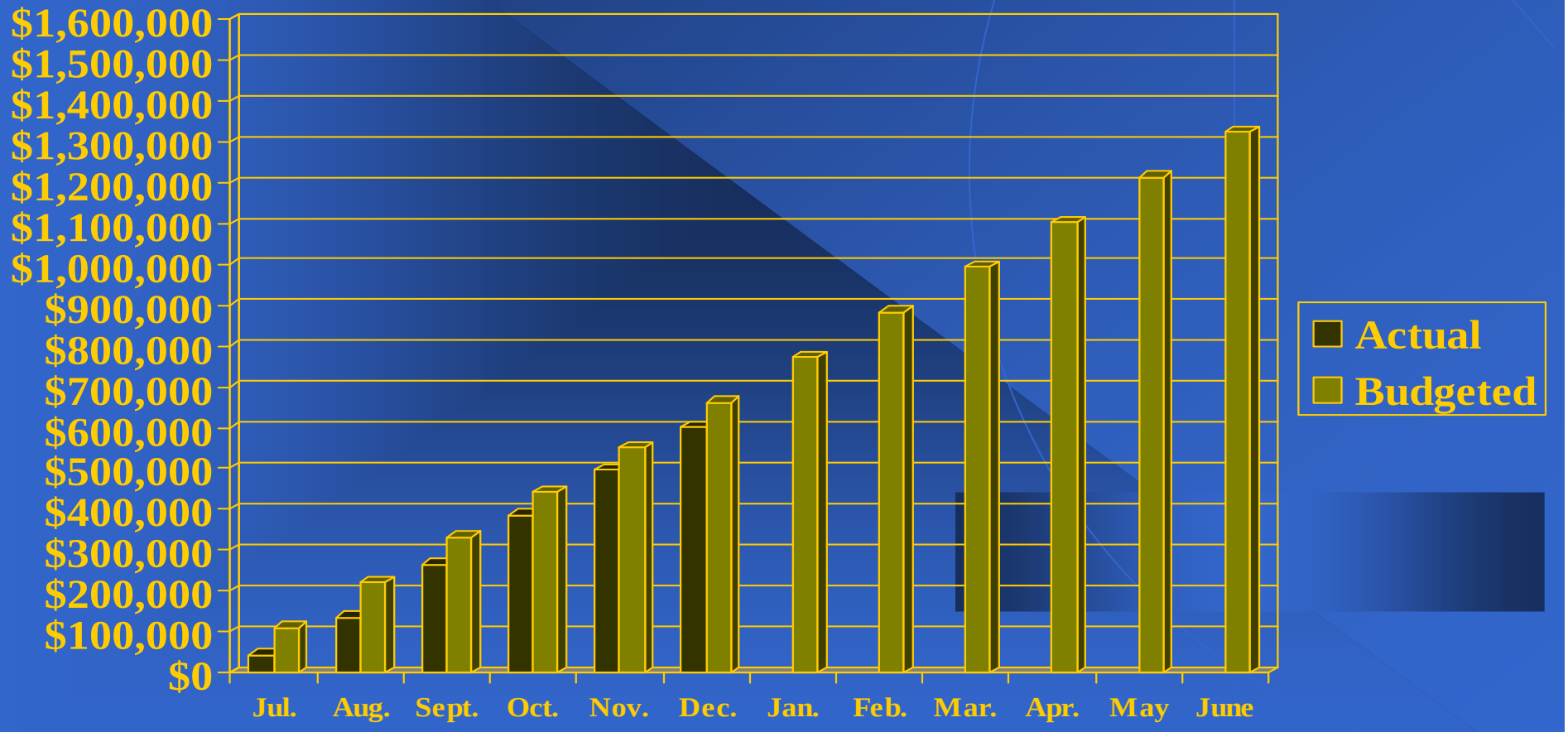
Purchased Utilities – GAS FY '06-'07
CUMULATIVE figures through month shown
(per Soka's Budget Transaction Detail)
Account # 6302



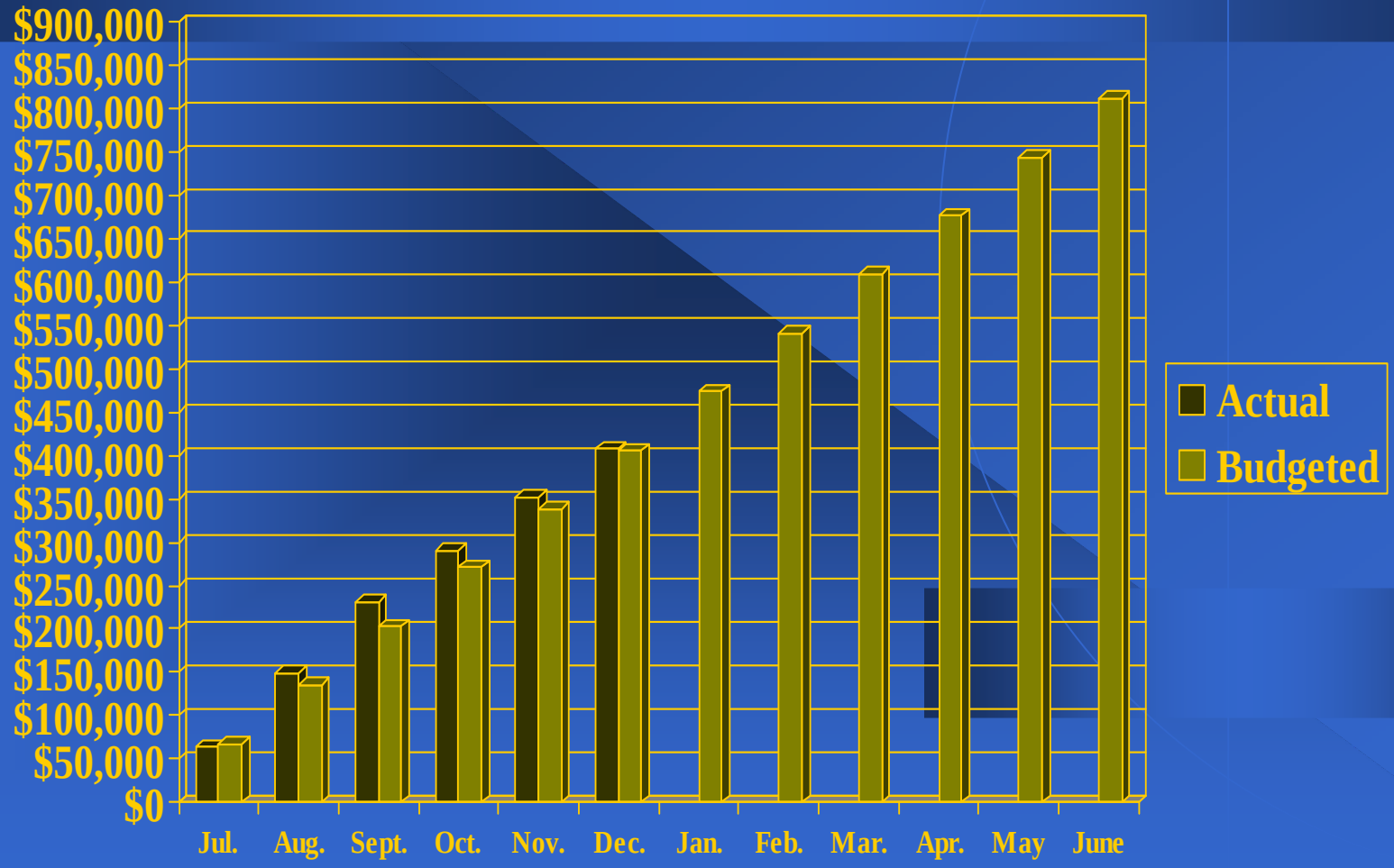
Purchased Utilities – WATER FY '06-'07
CUMULATIVE figures through month shown
(per Soka's Budget Transaction Detail)
Account # 6305



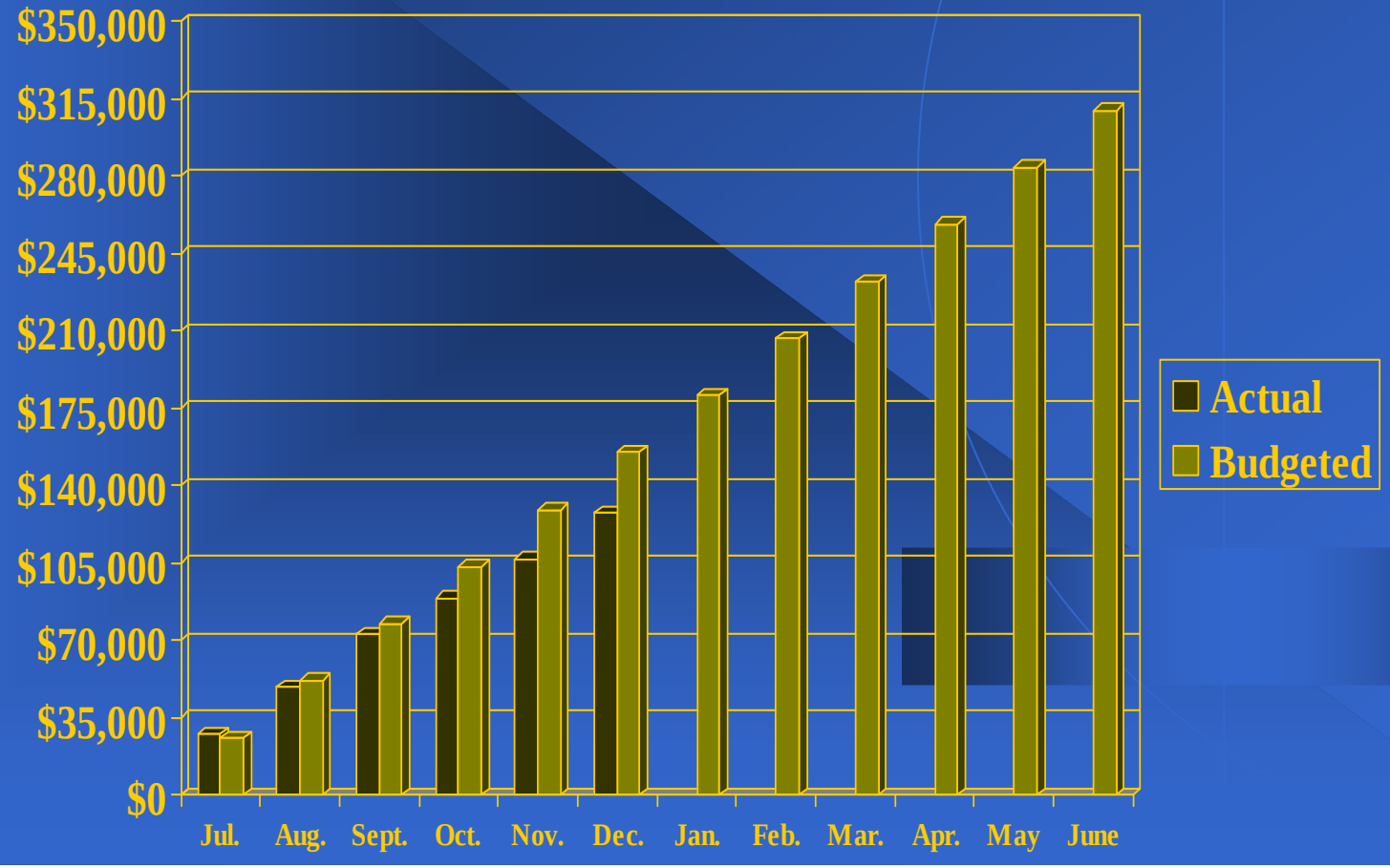
Maintenance (Labor & Materials) FY '06-'07 CUMULATIVE figures through month shown (per Soka's Budget Transaction Detail) Account # 6310



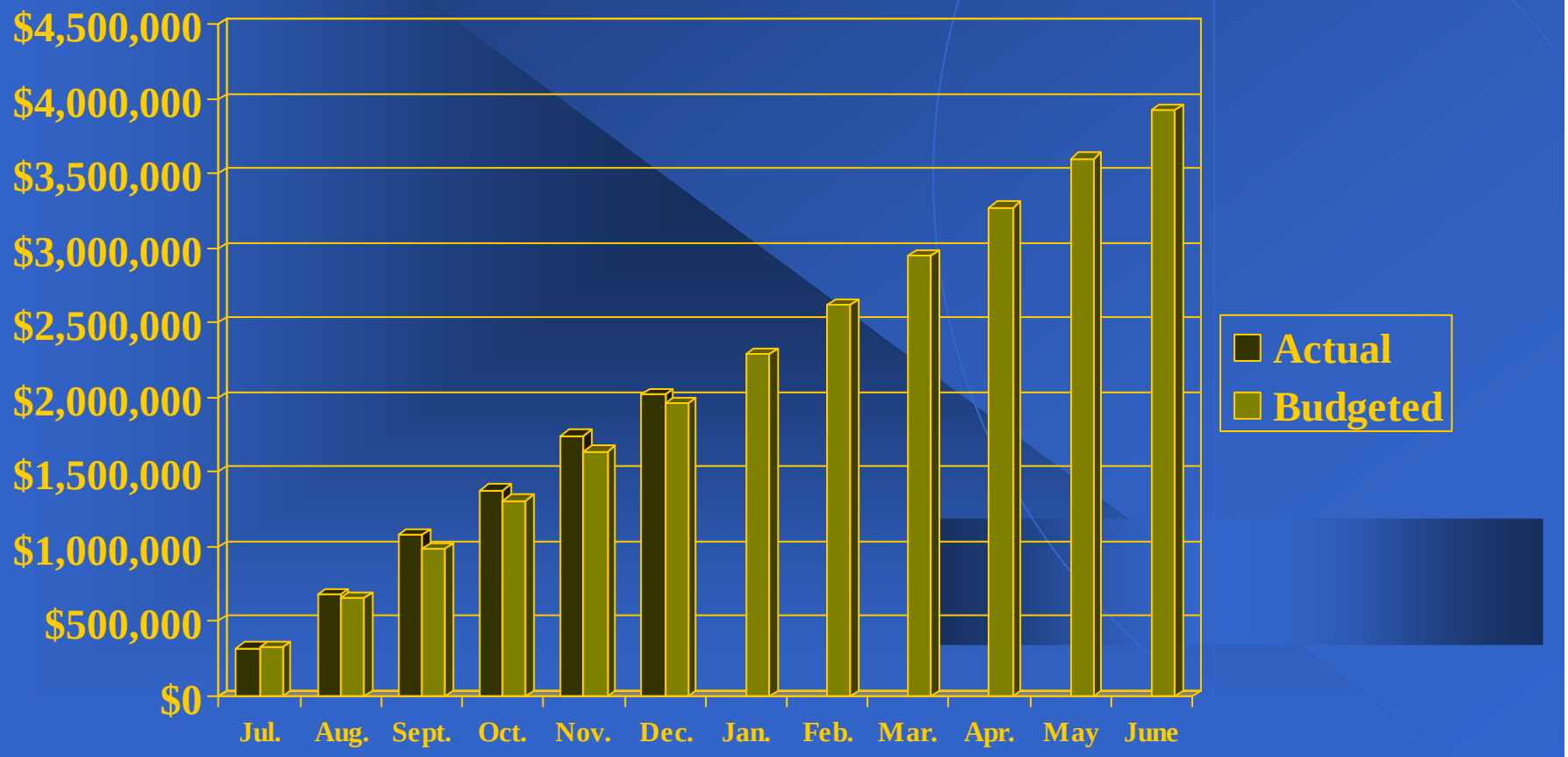
Custodial (Labor & Materials) FY '06-'07 CUMULATIVE figures through month shown (per Soka's Budget Transaction Detail) Account # 6306



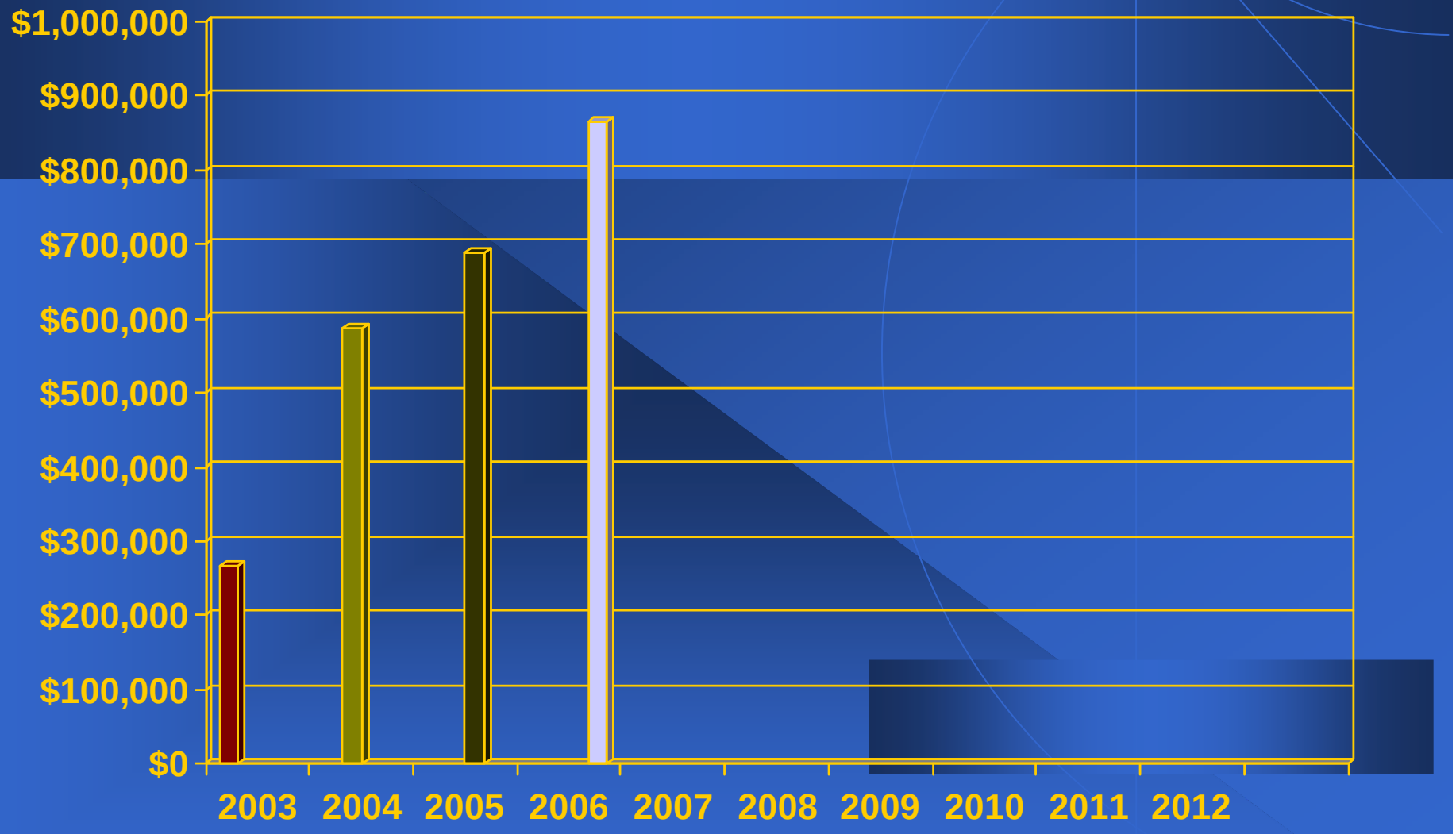
Shipping/Rcv'g/CBORD/Mailroom (Labor & Materials) FY '06-'07 CUMULATIVE figures through month shown (per Soka's Budget Transaction Detail) Account # 6316



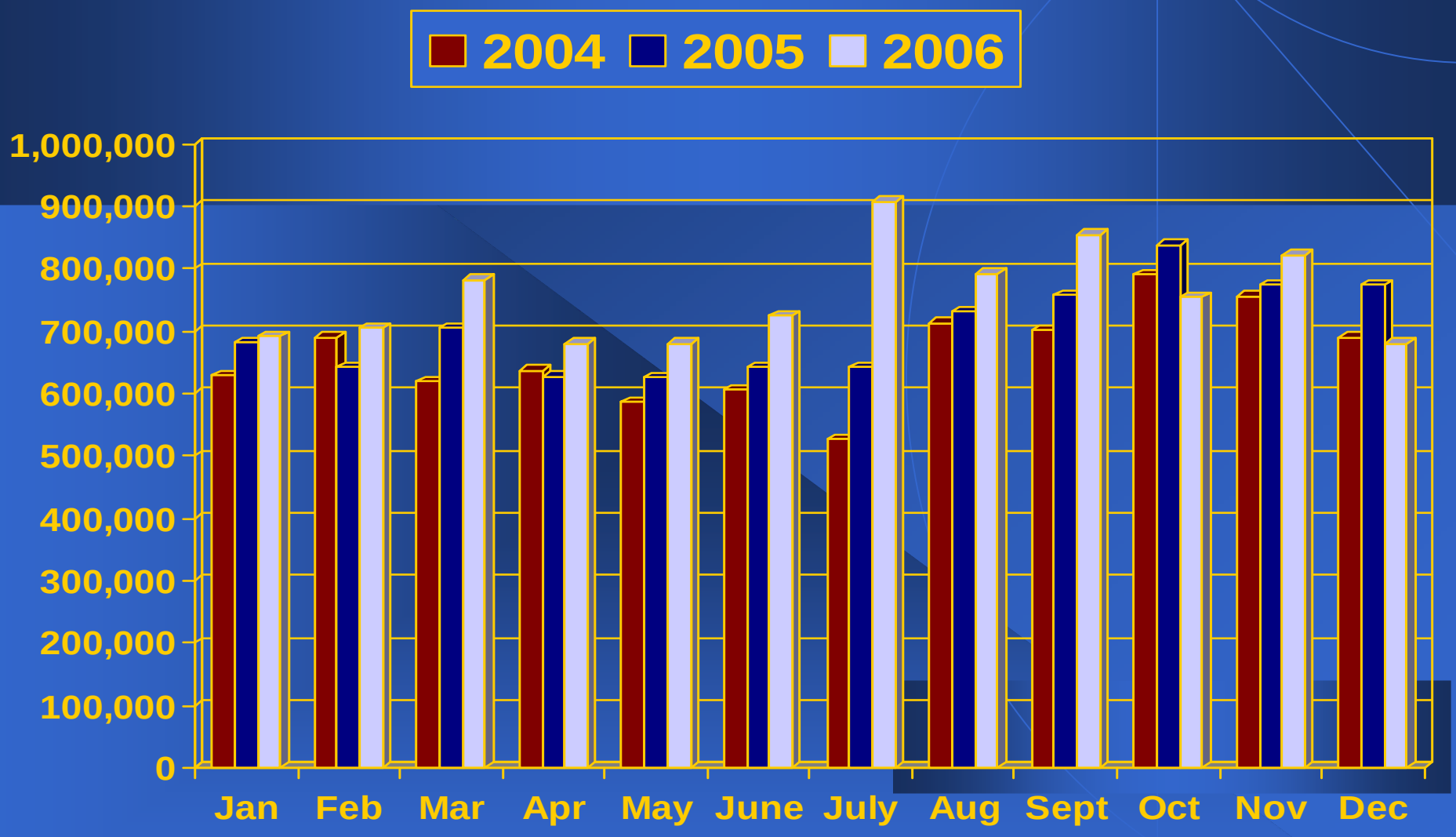
Total Operating Budget per month (Maint.,Custodial, Ship/Rcv'g./Mailroom, CBORD, Electric, Gas, Water & Capital) CUMULATIVE figures through month shown (per Soka's Budget Transaction Detail) FY '06/'07



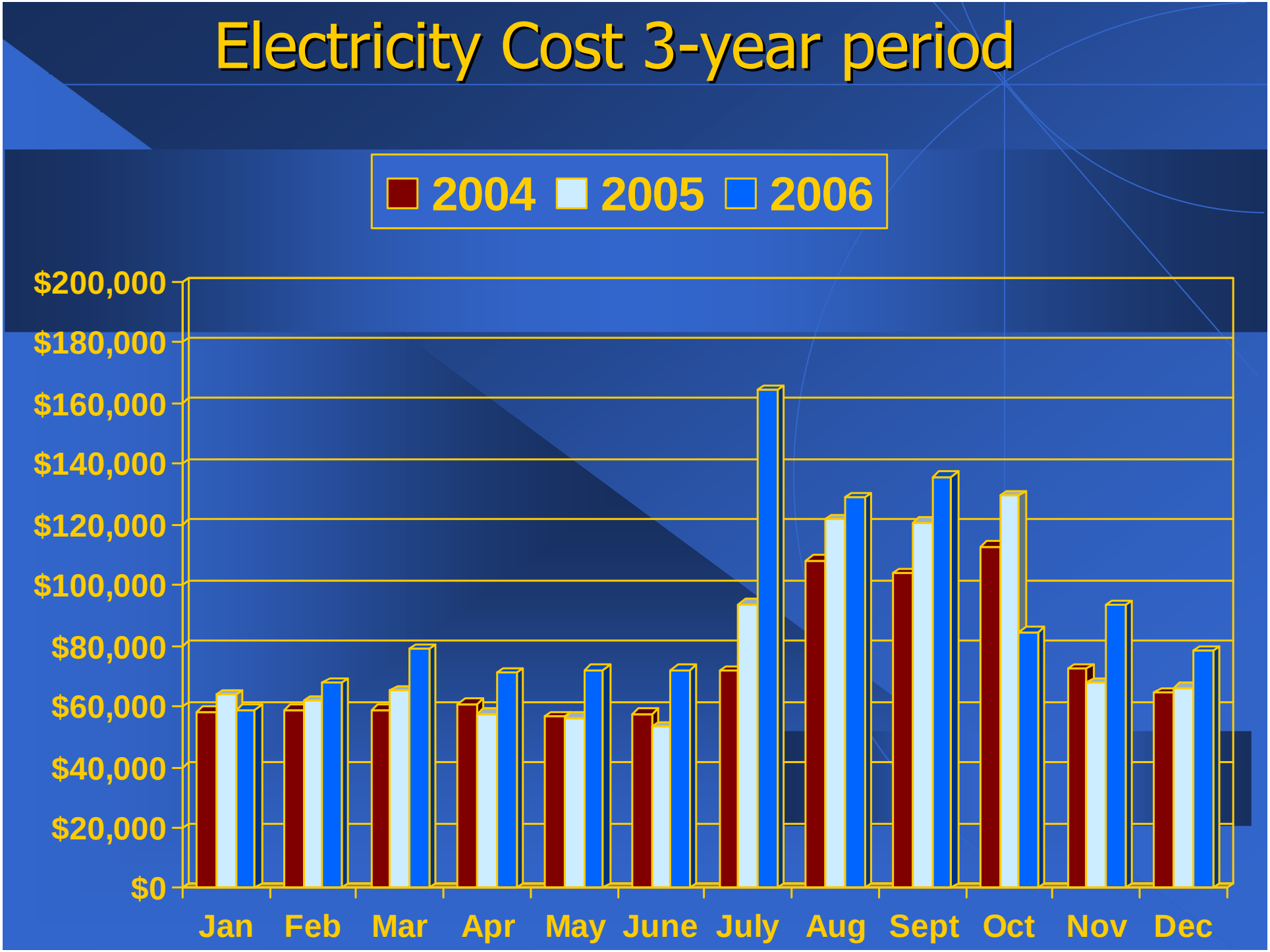
Materials Expense
10-year period 2003 – 2012



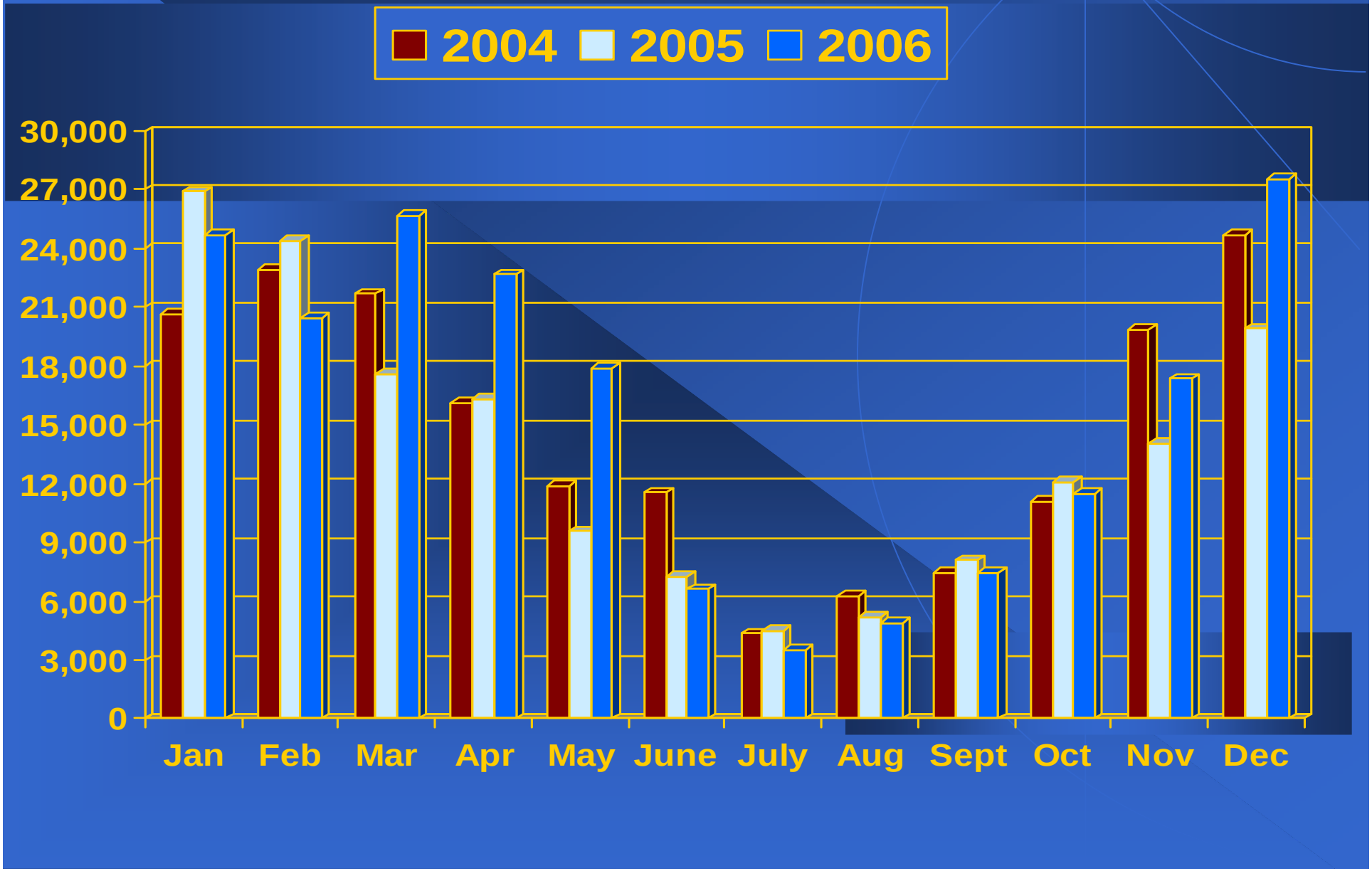
Electricity Usage 3-year period



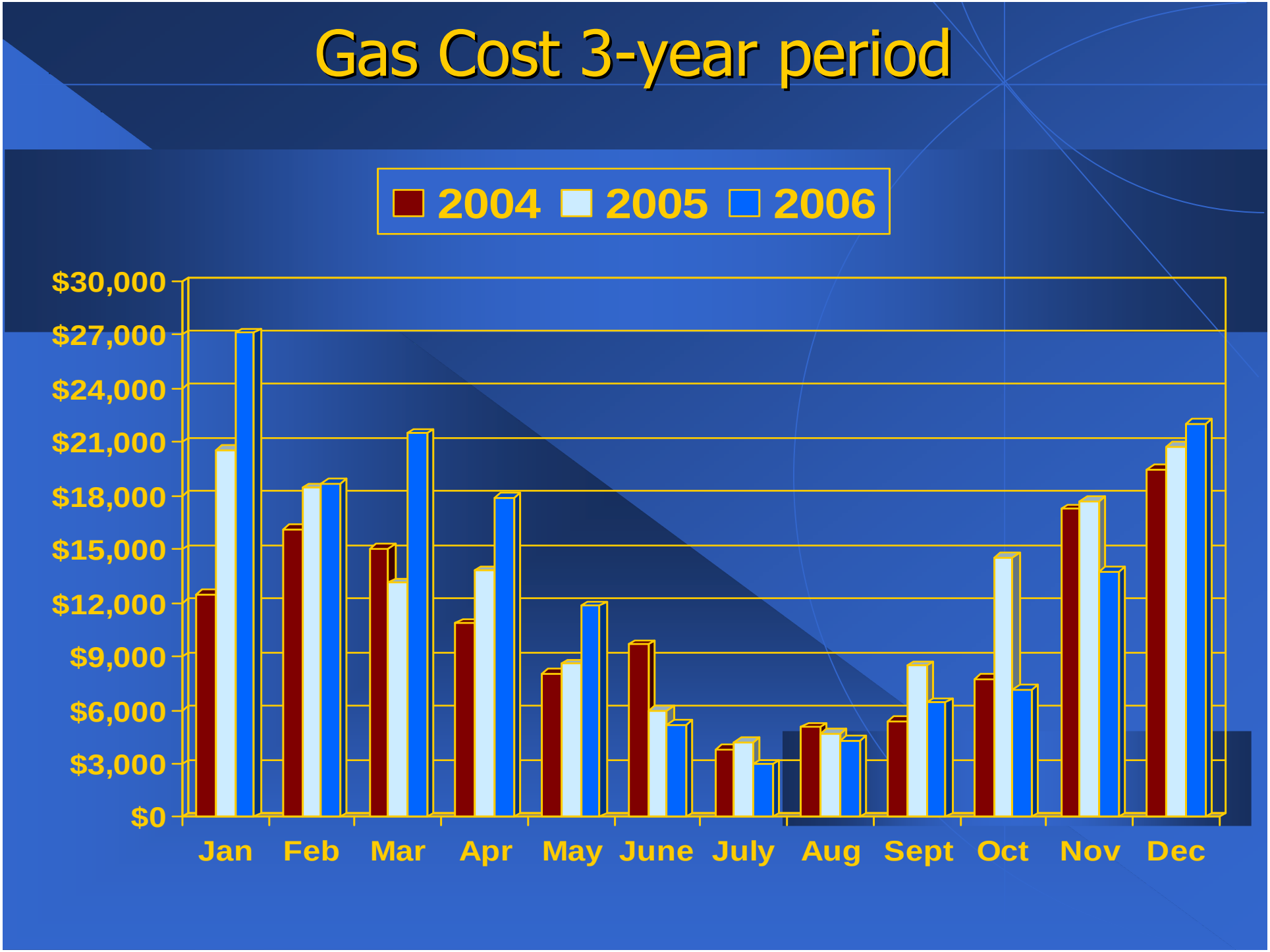
Electricity Cost 3-year period



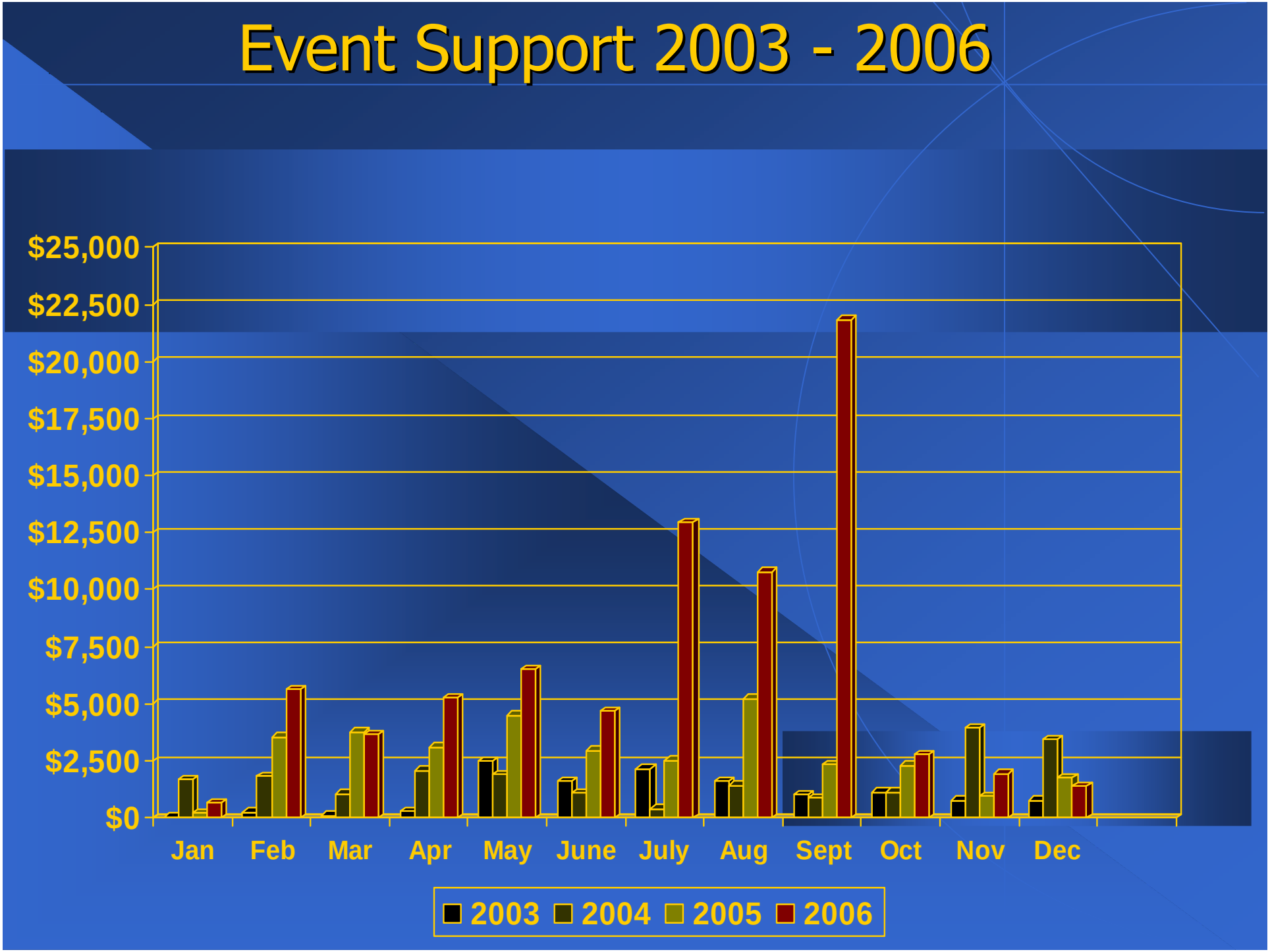
Gas Usage 3-year period



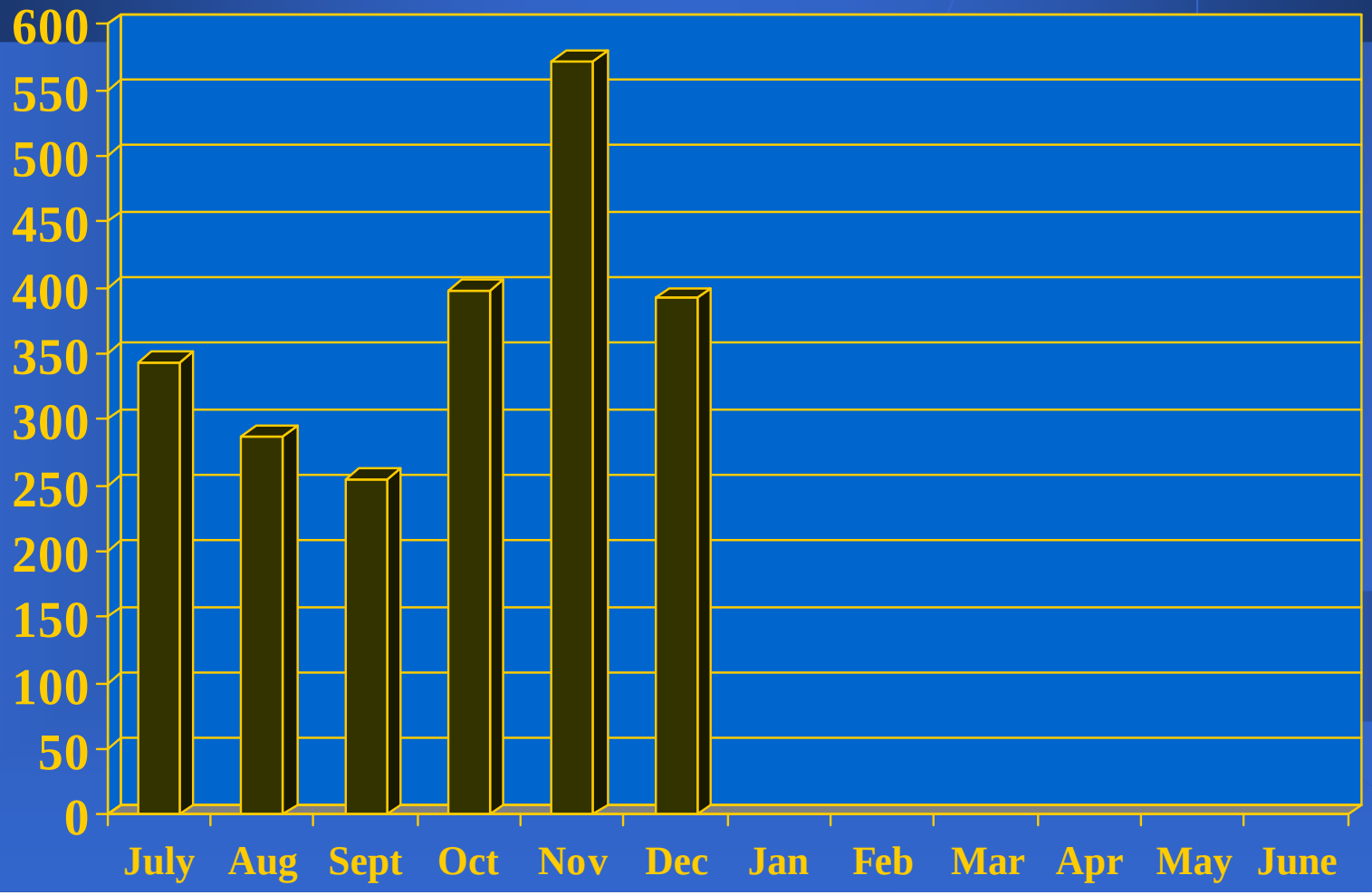
Gas Cost 3-year period



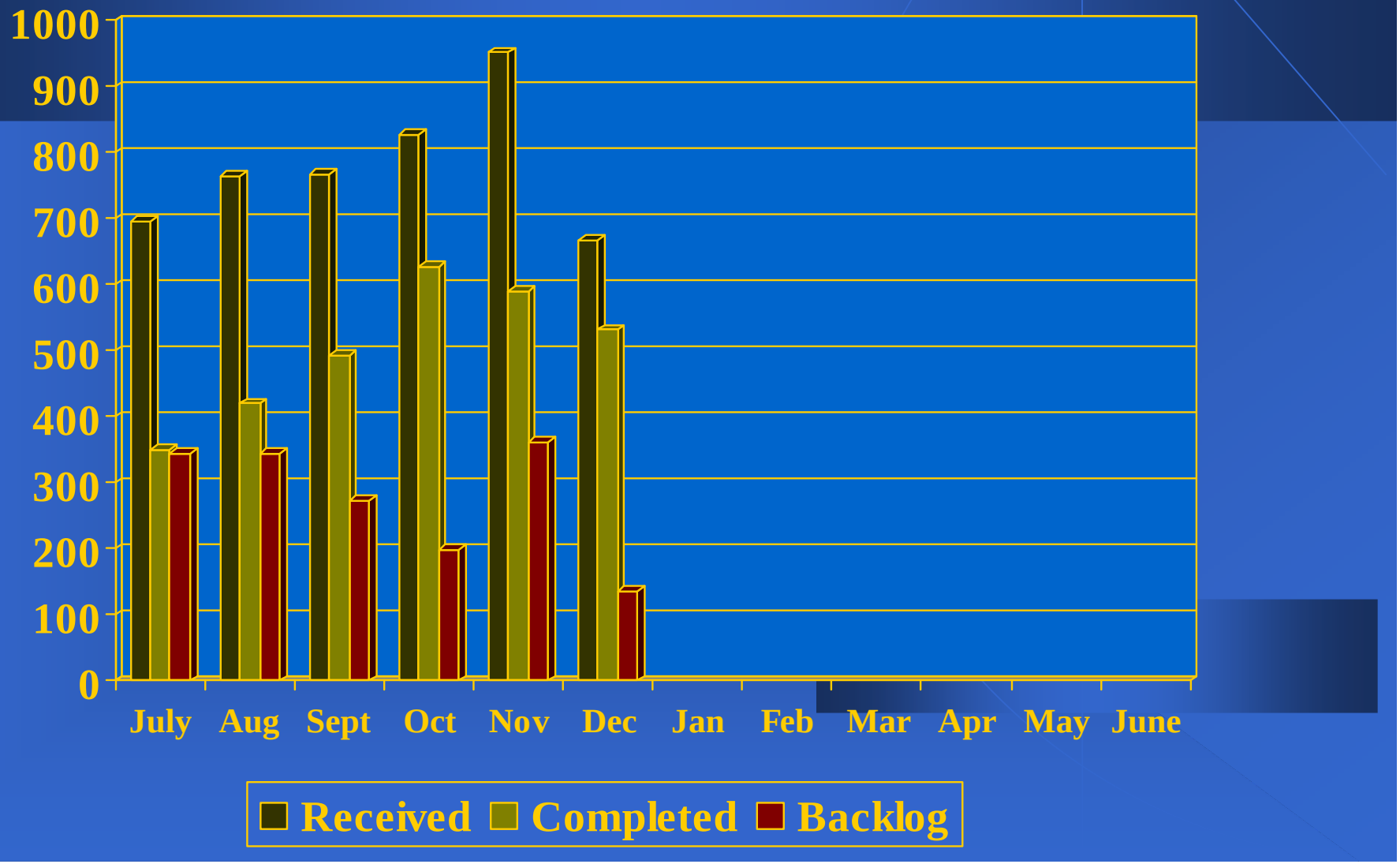
Event Support 2003 - 2006



Preventative Maintenance (PM) requests received – FY ’06 – ‘07



ALL work requests received and completed – FY ’06 – ‘07



Facilities: Customer Service Surveys FY '05/'06

- July '06 – 351 surveys sent, 52 received back.
- August '06 – 764 surveys sent, 77 received back.
- September '06 – 766 surveys sent, 91 received back.
- October '06 – 826 surveys sent, 50 received back.
- November '06 – 951 surveys sent, 35 received back.
- December '06 – 668 surveys sent, 33 received back.

Ratings chart

1 = Extremely dissatisfied

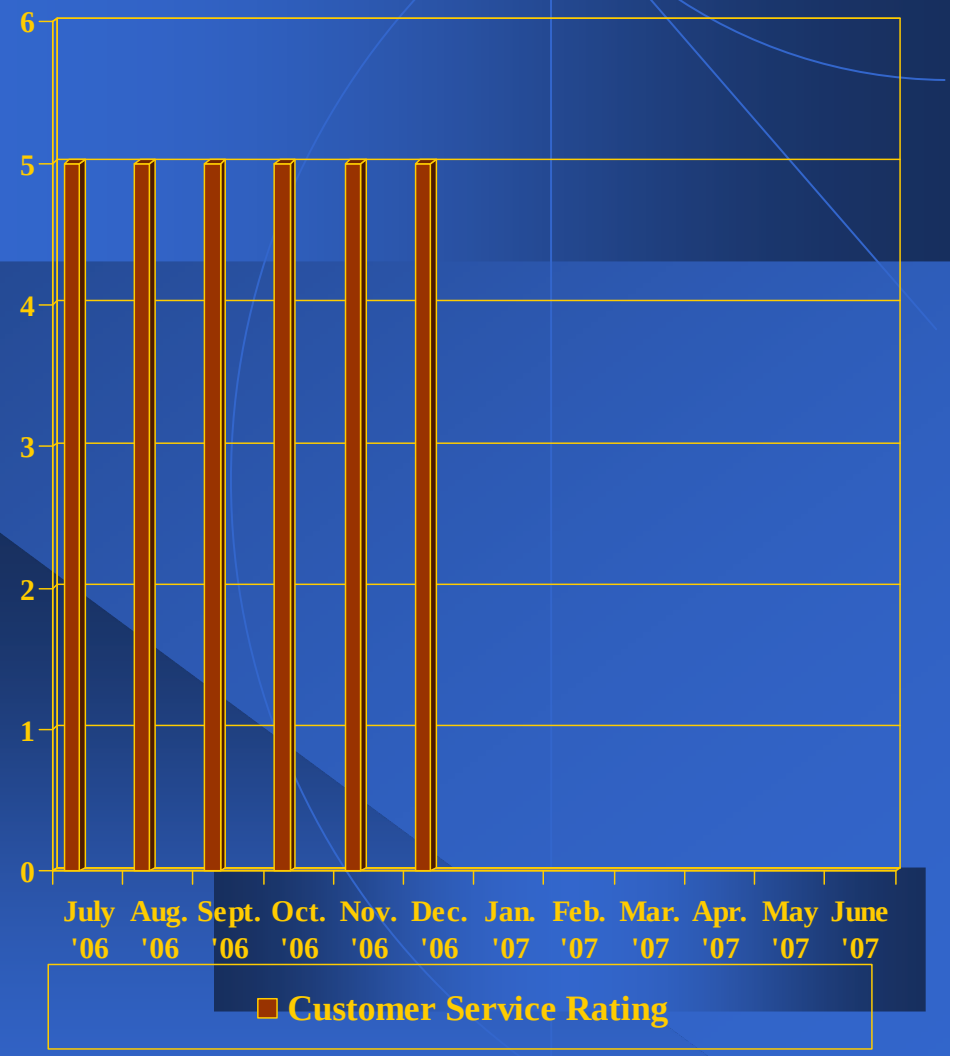
2 = Very dissatisfied

3 = Less than satisfied

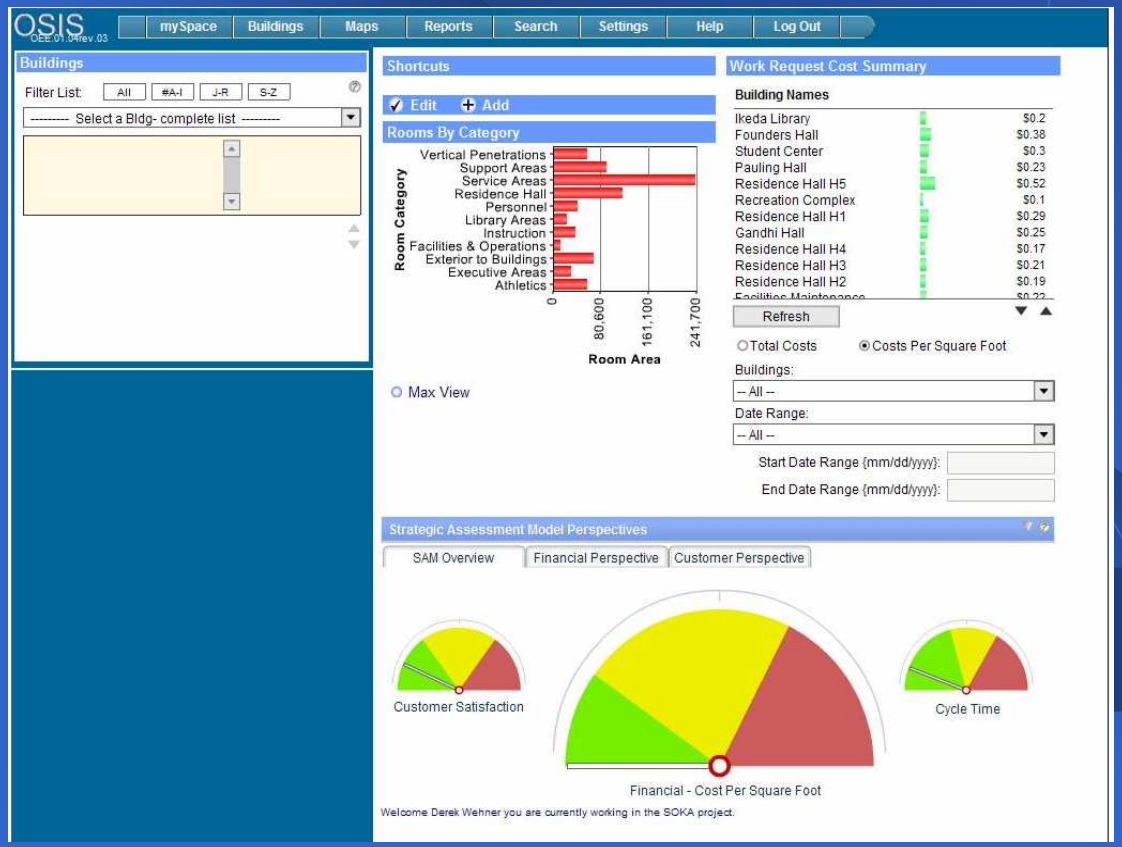
4 = Satisfied

5 = Very satisfied

6 = Extremely satisfied



Soka Digital Dashboard Gauge Technology



Deployment

APPA Facilities Performance Indicators

- Incorporates features from both Baldrige National Quality Award & Balanced Scorecard to assess organizational performance
- Focuses on Continuous Improvement/Trends
- Applies 4 Performance Categories; Financial, Internal Process, Innovation/Learning about Employee Focus and Customer Focus displayed on performance gauges

Financial FPI's

- Facility Operating CRV Index

Operating Budget/ Current Replacement Value

- Facility GSF Index

Operating Budget/ Gross Square Feet

- Facility GIE Index

Operating Budget/ Gross Inst. Expenditures

- Capital Renewal Index (CRI)

Annual Capital Renewal/Modernization $/CRV

- Facilities Condition Index (FCI)

CR/DM Backlog/ CRV

- Needs Index
- Combines CRI and FCI

Internal Process FPI's

- Cycle Time; Time to complete
- Average Age; Aging of active work orders
- Backlog; Estimated hours needed to get caught up based on F.T.E. count
- Energy Usage; BTU/GSF
- Estimating Index; Comparison of actual to estimated work order expenses
- Project Soft Cost Index; Comparison of non construction related to total project costs

PHILOSOPHY

Innovation & Learning, Employee Focus FPI's

- Employee Satisfaction Assessment
- High Score Index; A standard ranking score
- Top Box-Bottom Box Index; Proportion of satisfied to dis-satisfied

PHILOSOPHY

Customer Focus FPI's

- Customer Satisfaction Assessment
- High Score Index
- Top Box-Bottom Box Index

PHILOSOPHY

Facilities Performance Indicators Program

- www.appa.org

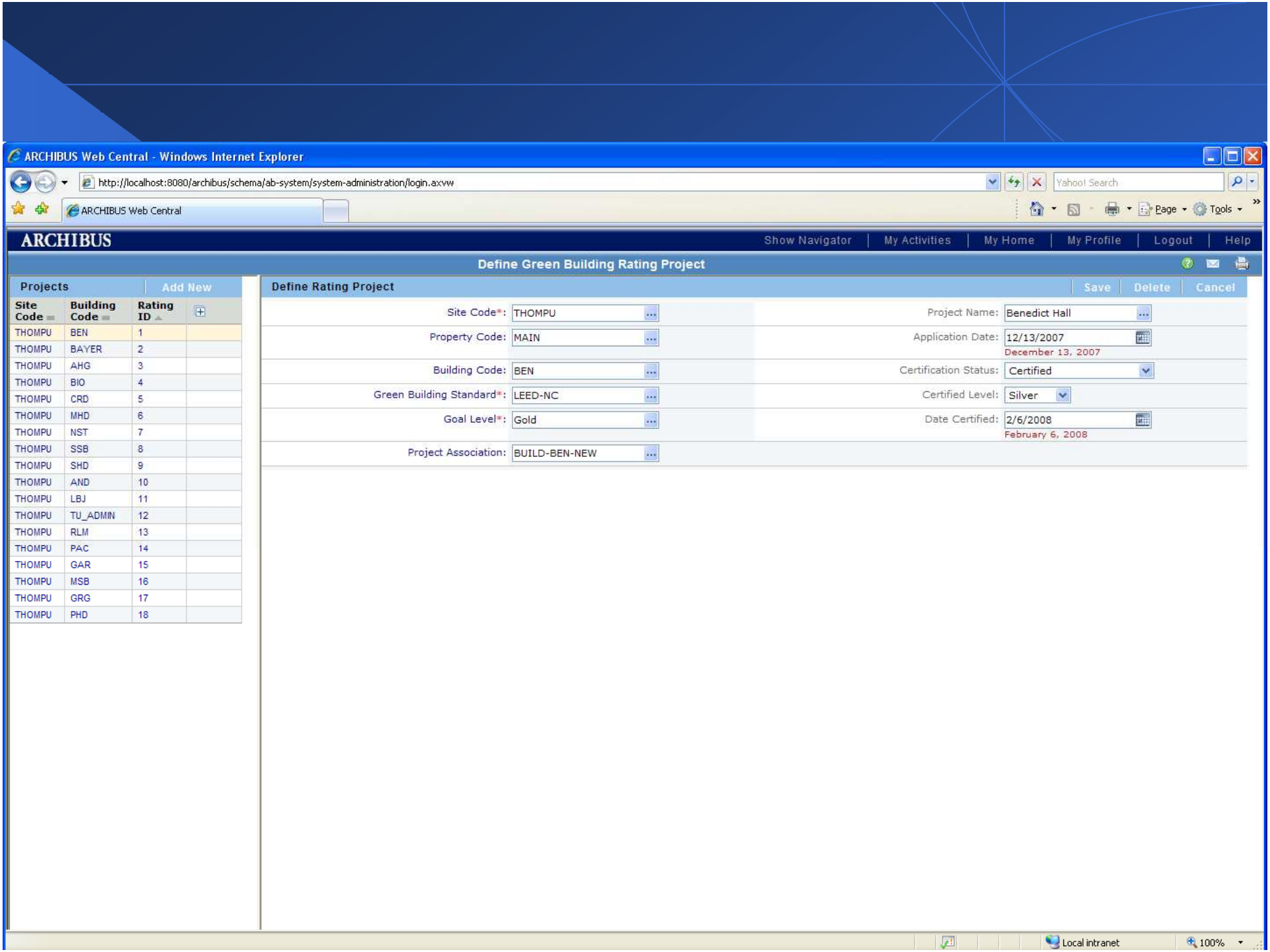
Total Environmental Asset Management Systems Software

Green Building Module Presentation for Inland Empire Tech Week 2009


COMPLIANCE & FINANCIAL MANAGEMENT
Event Calendar and notification system
Provide liability projections w/ backup information
Track permits, plans, requirements
Document compliance
MSDS MANAGEMENT
MSDS linked to manufacturer website; backup copy
Search by clickable maps, name, manufacturer
Update all locations at once
ENVIRONMENTAL MONITORING
Upload and manage data for any media
Compare results to internal or regulatory standards
Plot and review trends on a real-time basis
Consolidate locations & monitoring programs
Integrated EHS Program Management Solutions
Track waste storage by waste profile and location
Record emissions, discharges
Manage waste shipments & manifests; recycling efforts
WASTE MANAGEMENT
Record incidents, causes, witnesses, corrective actions
Identify problems by location
Review training; work restrictions
Medical monitoring
ENVIRONMENTAL, HEALTH & SAFETY
Record hazardous materials at the building level
Record samples of hazardous materials
Record project specific information
CLEAN BUILDING
Calculate your Carbon Footprint
Utility Tracking
LEED project scoring and tracking
Integrated sustainability program
Calculate cost savings; best practices
GREEN BUILDING

GREEN BUILDING

- Document and track progress through LEED or other sustainability and green building certification processes.
  - Calculate Carbon Footprint
  - LEED Step by Step Scoring
  - Use enterprise-wide metrics as part of an integrated sustainability program


ARCHIBUS Web Central - Windows Internet Explorer
http://localhost:8080/archibus/schema/ab-system/system-administration/login.axvw
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Define Green Building Rating Project
Projects
Add New
Site Code | Building Code | Rating ID
THOMPU | BEN | 1
THOMPU | BAYER | 2
THOMPU | AHG | 3
THOMPU | BIO | 4
THOMPU | CRD | 5
THOMPU | MHD | 6
THOMPU | NST | 7
THOMPU | SSB | 8
THOMPU | SHD | 9
THOMPU | AND | 10
THOMPU | LBJ | 11
THOMPU | TU_ADMIN | 12
THOMPU | RLM | 13
THOMPU | PAC | 14
THOMPU | GAR | 15
THOMPU | MSB | 16
THOMPU | GRG | 17
THOMPU | PHD | 18
Define Rating Project
Save | Delete | Cancel
Site Code*: THOMPU
Property Code: MAIN
Building Code: BEN
Green Building Standard*: LEED-NC
Goal Level*: Gold
Project Association: BUILD-BEN-NEW
Project Name: Benedict Hall
Application Date: 12/13/2007
December 13, 2007
Certification Status: Certified
Certified Level: Silver
Date Certified: 2/6/2008
February 6, 2008
Local intranet
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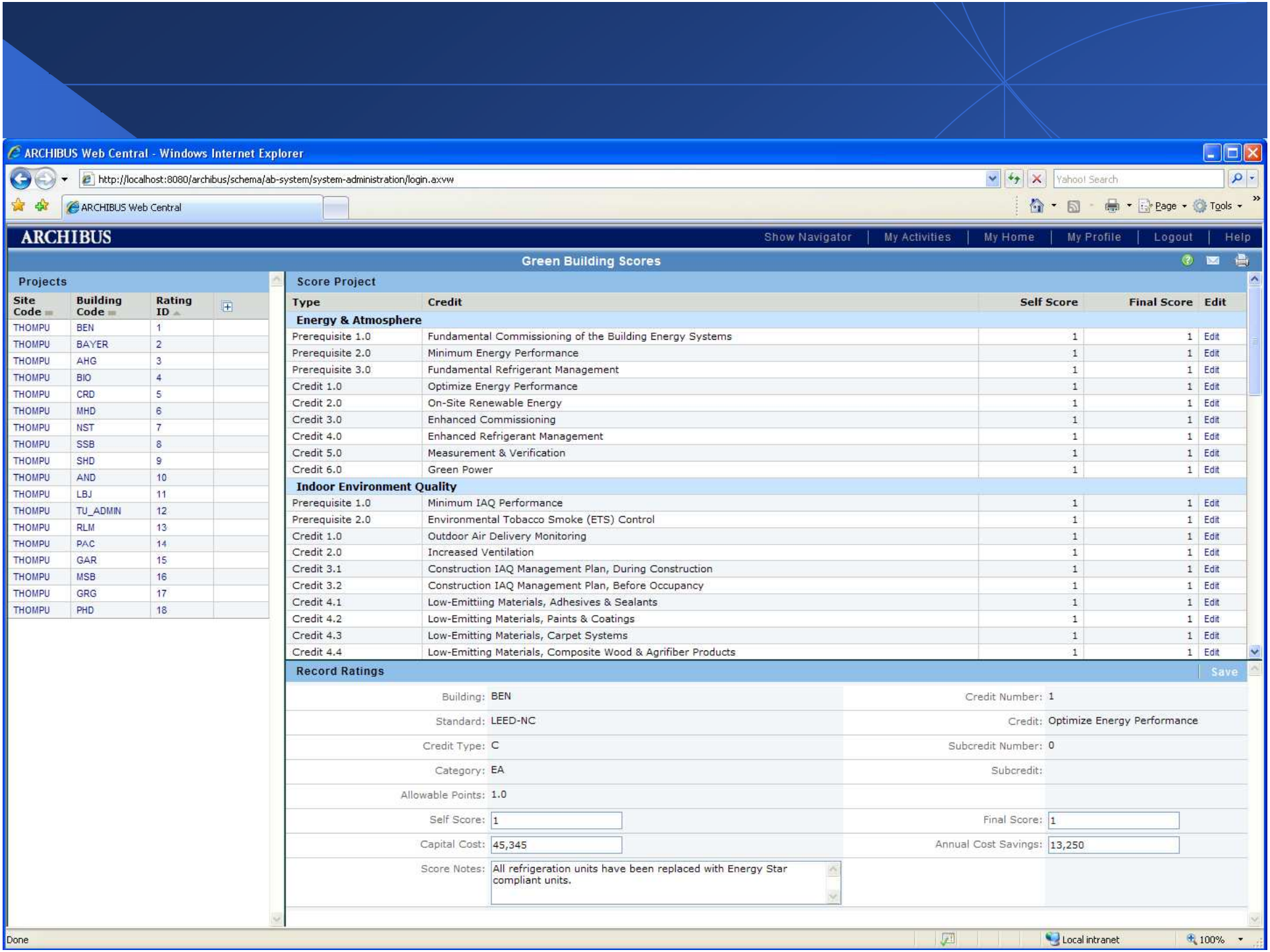
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ARCHIBUS Web Central
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Show Navigator | My Activities | My Home | My Profile | Logout | Help
Green Building Scores
Projects
Site Code | Building Code | Rating ID
THOMPU | BEN | 1
THOMPU | BAYER | 2
THOMPU | AHG | 3
THOMPU | BIO | 4
THOMPU | CRD | 5
THOMPU | MHD | 6
THOMPU | NST | 7
THOMPU | SSB | 8
THOMPU | SHD | 9
THOMPU | AND | 10
THOMPU | LBJ | 11
THOMPU | TU_ADMIN | 12
THOMPU | RLM | 13
THOMPU | PAC | 14
THOMPU | GAR | 15
THOMPU | MSB | 16
THOMPU | GRG | 17
THOMPU | PHD | 18
Score Project
Type | Credit | Self Score | Final Score | Edit
Energy & Atmosphere
Prerequisite 1.0 | Fundamental Commissioning of the Building Energy Systems | 1 | 1 | Edit
Prerequisite 2.0 | Minimum Energy Performance | 1 | 1 | Edit
Prerequisite 3.0 | Fundamental Refrigerant Management | 1 | 1 | Edit
Credit 1.0 | Optimize Energy Performance | 1 | 1 | Edit
Credit 2.0 | On-Site Renewable Energy | 1 | 1 | Edit
Credit 3.0 | Enhanced Commissioning | 1 | 1 | Edit
Credit 4.0 | Enhanced Refrigerant Management | 1 | 1 | Edit
Credit 5.0 | Measurement & Verification | 1 | 1 | Edit
Credit 6.0 | Green Power | 1 | 1 | Edit
Indoor Environment Quality
Prerequisite 1.0 | Minimum IAQ Performance | 1 | 1 | Edit
Prerequisite 2.0 | Environmental Tobacco Smoke (ETS) Control | 1 | 1 | Edit
Credit 1.0 | Outdoor Air Delivery Monitoring | 1 | 1 | Edit
Credit 2.0 | Increased Ventilation | 1 | 1 | Edit
Credit 3.1 | Construction IAQ Management Plan, During Construction | 1 | 1 | Edit
Credit 3.2 | Construction IAQ Management Plan, Before Occupancy | 1 | 1 | Edit
Credit 4.1 | Low-Emittiing Materials, Adhesives & Sealants | 1 | 1 | Edit
Credit 4.2 | Low-Emitting Materials, Paints & Coatings | 1 | 1 | Edit
Credit 4.3 | Low-Emitting Materials, Carpet Systems | 1 | 1 | Edit
Credit 4.4 | Low-Emitting Materials, Composite Wood & Agrifiber Products | 1 | 1 | Edit
Record Ratings
Save
Building: BEN
Standard: LEED-NC
Credit Type: C
Category: EA
Allowable Points: 1.0
Credit Number: 1
Credit: Optimize Energy Performance
Subcredit Number: 0
Subcredit:
Self Score: 1
Final Score: 1
Capital Cost: 45,345
Annual Cost Savings: 13,250
Score Notes: All refrigeration units have been replaced with Energy Star compliant units.
Done
Local intranet
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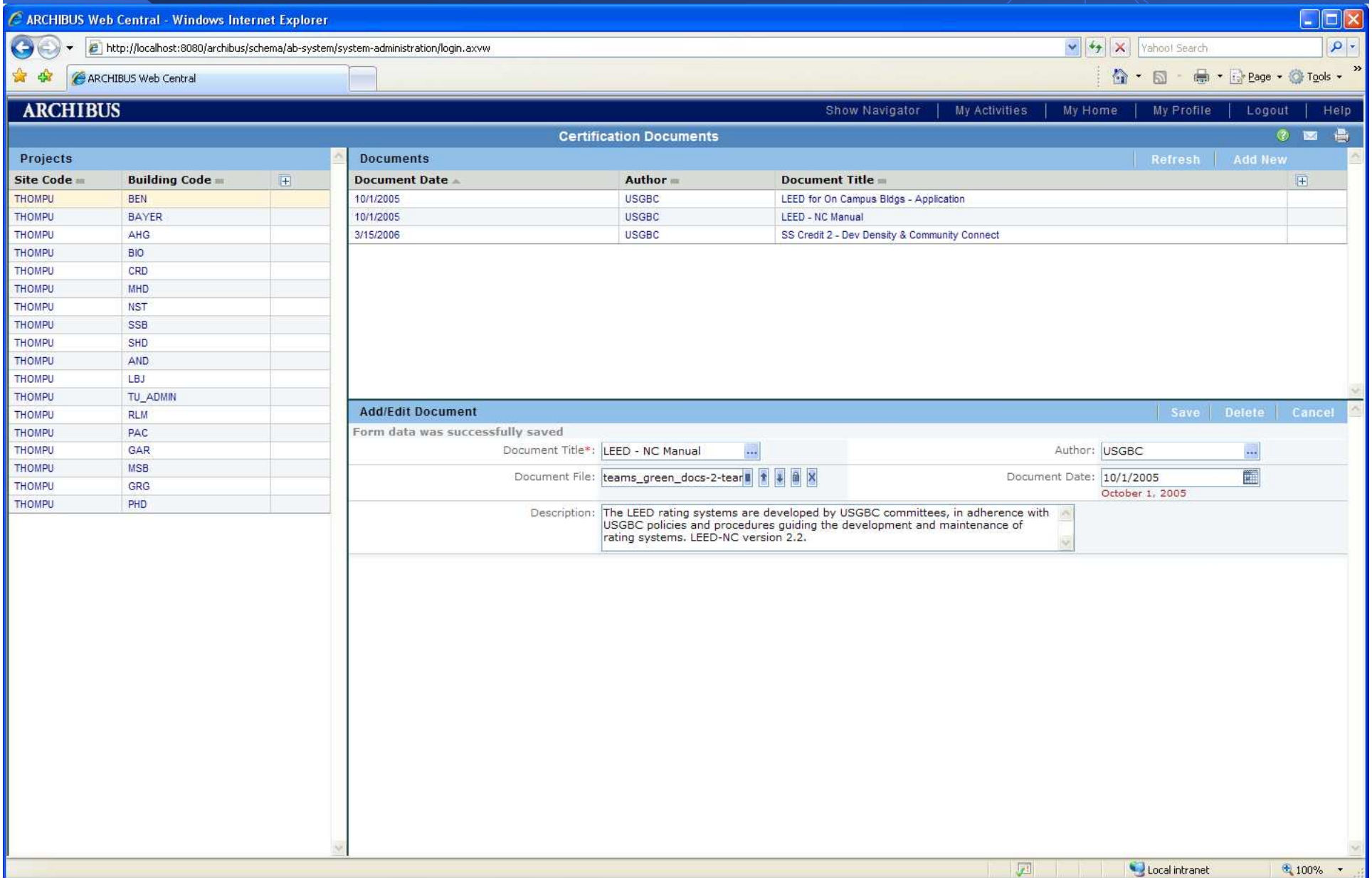
ARCHIBUS Web Central - Windows Internet Explorer
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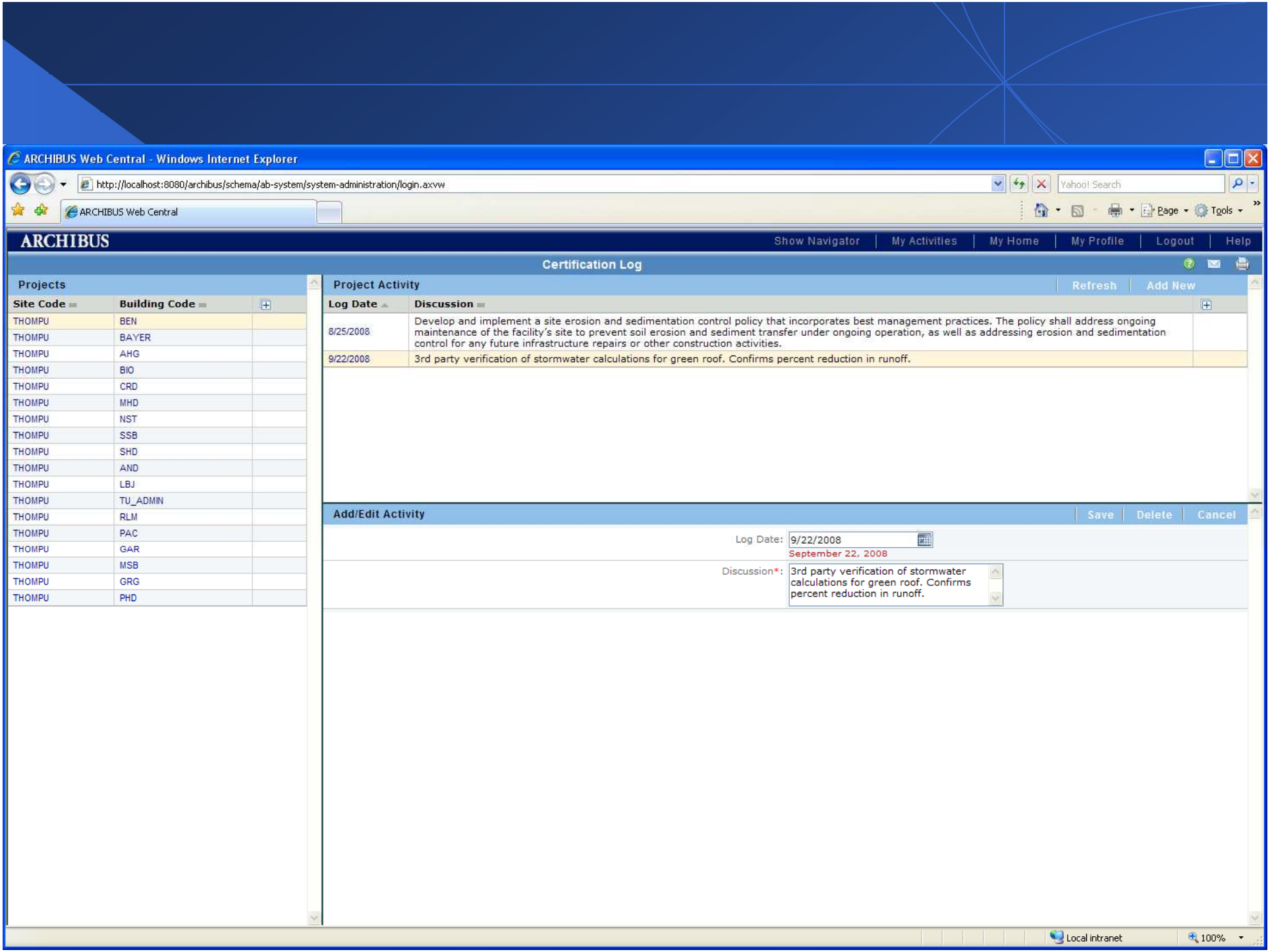
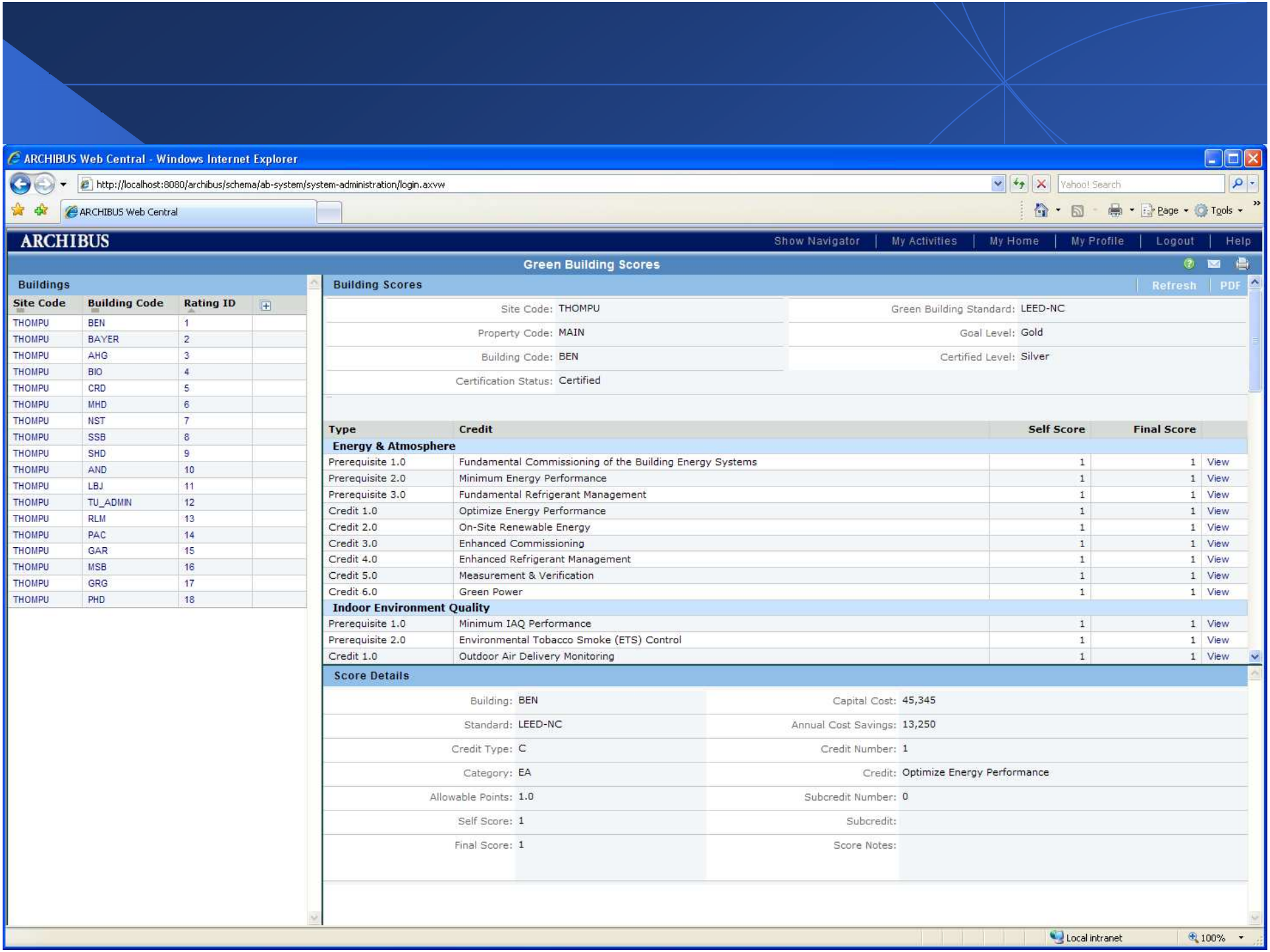
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Certification Documents
Projects
Site Code | Building Code
THOMPU | BEN
THOMPU | BAYER
THOMPU | AHG
THOMPU | BIO
THOMPU | CRD
THOMPU | MHD
THOMPU | NST
THOMPU | SSB
THOMPU | SHD
THOMPU | AND
THOMPU | LBJ
THOMPU | TU_ADMIN
THOMPU | RLM
THOMPU | PAC
THOMPU | GAR
THOMPU | MSB
THOMPU | GRG
THOMPU | PHD
Documents
Refresh | Add New
Document Date | Author | Document Title
10/1/2005 | USGBC | LEED for On Campus Bldgs - Application
10/1/2005 | USGBC | LEED - NC Manual
3/15/2006 | USGBC | SS Credit 2 - Dev Density & Community Connect
Add/Edit Document
Save | Delete | Cancel
Form data was successfully saved
Document Title*: LEED - NC Manual
Author: USGBC
Document File: teams_green_docs-2-tear
Document Date: 10/1/2005
October 1, 2005
Description: The LEED rating systems are developed by USGBC committees, in adherence with USGBC policies and procedures guiding the development and maintenance of rating systems. LEED-NC version 2.2.
Local intranet
100%


ARCHIBUS Web Central - Windows Internet Explorer
http://localhost:8080/archibus/schema/ab-system/system-administration/login.axvw
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Certification Log
Projects
Site Code | Building Code
THOMPU BEN
THOMPU BAYER
THOMPU AHG
THOMPU BIO
THOMPU CRD
THOMPU MHD
THOMPU NST
THOMPU SSB
THOMPU SHD
THOMPU AND
THOMPU LBJ
THOMPU TU_ADMIN
THOMPU RLM
THOMPU PAC
THOMPU GAR
THOMPU MSB
THOMPU GRG
THOMPU PHD
Project Activity
Refresh | Add New
Log Date | Discussion
8/25/2008 Develop and implement a site erosion and sedimentation control policy that incorporates best management practices. The policy shall address ongoing maintenance of the facility's site to prevent soil erosion and sediment transfer under ongoing operation, as well as addressing erosion and sedimentation control for any future infrastructure repairs or other construction activities.
9/22/2008 3rd party verification of stormwater calculations for green roof. Confirms percent reduction in runoff.
Add/Edit Activity
Save | Delete | Cancel
Log Date: 9/22/2008
September 22, 2008
Discussion*: 3rd party verification of stormwater calculations for green roof. Confirms percent reduction in runoff.
Local intranet
100%


ARCHIBUS Web Central - Windows Internet Explorer
http://localhost:8080/archibus/schema/ab-system/system-administration/login.axvw
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Green Building Scores
Buildings
Site Code | Building Code | Rating ID
THOMPU | BEN | 1
THOMPU | BAYER | 2
THOMPU | AHG | 3
THOMPU | BIO | 4
THOMPU | CRD | 5
THOMPU | MHD | 6
THOMPU | NST | 7
THOMPU | SSB | 8
THOMPU | SHD | 9
THOMPU | AND | 10
THOMPU | LBJ | 11
THOMPU | TU_ADMIN | 12
THOMPU | RLM | 13
THOMPU | PAC | 14
THOMPU | GAR | 15
THOMPU | MSB | 16
THOMPU | GRG | 17
THOMPU | PHD | 18
Building Scores
Refresh | PDF
Site Code: THOMPU
Property Code: MAIN
Building Code: BEN
Certification Status: Certified
Green Building Standard: LEED-NC
Goal Level: Gold
Certified Level: Silver
Type | Credit | Self Score | Final Score
Energy & Atmosphere
Prerequisite 1.0 | Fundamental Commissioning of the Building Energy Systems | 1 | 1 | View
Prerequisite 2.0 | Minimum Energy Performance | 1 | 1 | View
Prerequisite 3.0 | Fundamental Refrigerant Management | 1 | 1 | View
Credit 1.0 | Optimize Energy Performance | 1 | 1 | View
Credit 2.0 | On-Site Renewable Energy | 1 | 1 | View
Credit 3.0 | Enhanced Commissioning | 1 | 1 | View
Credit 4.0 | Enhanced Refrigerant Management | 1 | 1 | View
Credit 5.0 | Measurement & Verification | 1 | 1 | View
Credit 6.0 | Green Power | 1 | 1 | View
Indoor Environment Quality
Prerequisite 1.0 | Minimum IAQ Performance | 1 | 1 | View
Prerequisite 2.0 | Environmental Tobacco Smoke (ETS) Control | 1 | 1 | View
Credit 1.0 | Outdoor Air Delivery Monitoring | 1 | 1 | View
Score Details
Building: BEN
Standard: LEED-NC
Credit Type: C
Category: EA
Allowable Points: 1.0
Self Score: 1
Final Score: 1
Capital Cost: 45,345
Annual Cost Savings: 13,250
Credit Number: 1
Credit: Optimize Energy Performance
Subcredit Number: 0
Subcredit:
Score Notes:
Local intranet
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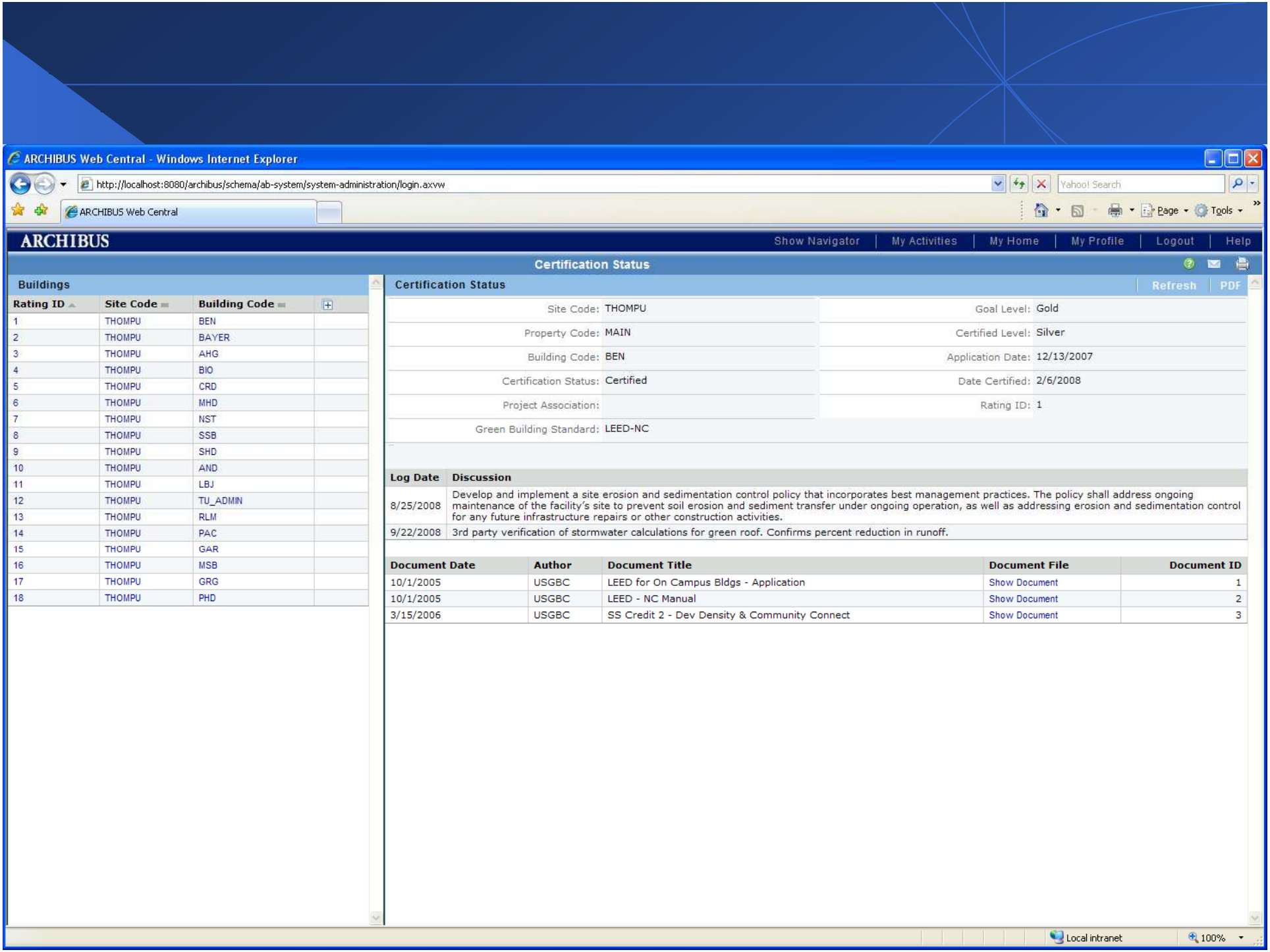
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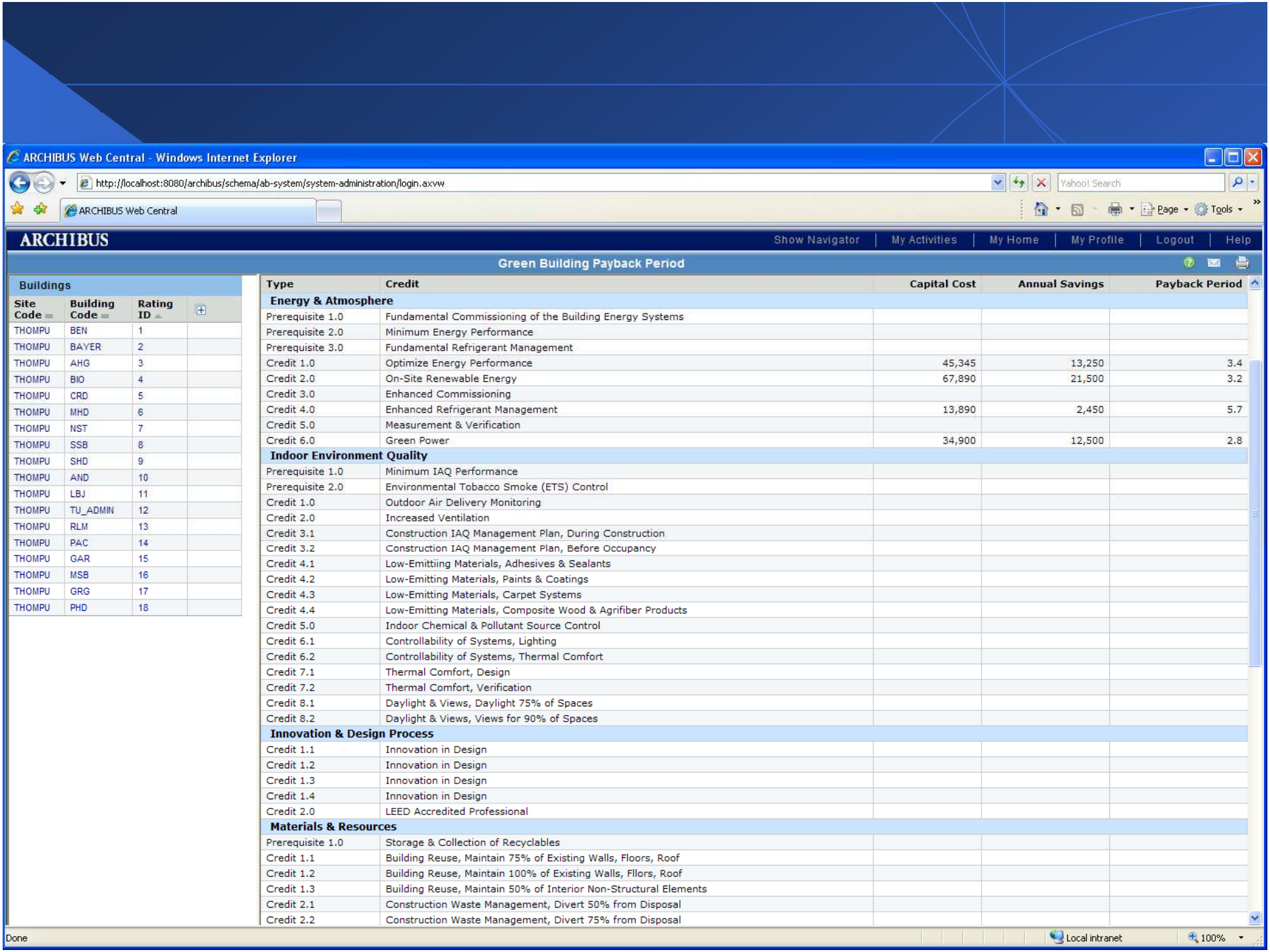
http://localhost:8080/archibus/schema/ab-system/system-administration/login.axvw
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Certification Status
Buildings
Rating ID | Site Code | Building Code
1 THOMPU BEN
2 THOMPU BAYER
3 THOMPU AHG
4 THOMPU BIO
5 THOMPU CRD
6 THOMPU MHD
7 THOMPU NST
8 THOMPU SSB
9 THOMPU SHD
10 THOMPU AND
11 THOMPU LBJ
12 THOMPU TU_ADMIN
13 THOMPU RLM
14 THOMPU PAC
15 THOMPU GAR
16 THOMPU MSB
17 THOMPU GRG
18 THOMPU PHD
Certification Status
Refresh | PDF
Site Code: THOMPU
Property Code: MAIN
Building Code: BEN
Certification Status: Certified
Project Association:
Green Building Standard: LEED-NC
Goal Level: Gold
Certified Level: Silver
Application Date: 12/13/2007
Date Certified: 2/6/2008
Rating ID: 1
Log Date | Discussion
8/25/2008 Develop and implement a site erosion and sedimentation control policy that incorporates best management practices. The policy shall address ongoing maintenance of the facility's site to prevent soil erosion and sediment transfer under ongoing operation, as well as addressing erosion and sedimentation control for any future infrastructure repairs or other construction activities.
9/22/2008 3rd party verification of stormwater calculations for green roof. Confirms percent reduction in runoff.
Document Date | Author | Document Title | Document File | Document ID
10/1/2005 USGBC LEED for On Campus Bldgs - Application Show Document 1
10/1/2005 USGBC LEED - NC Manual Show Document 2
3/15/2006 USGBC SS Credit 2 - Dev Density & Community Connect Show Document 3
Local intranet
100%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ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Green Building Payback Period
Buildings
Site Code | Building Code | Rating ID
THOMPU | BEN | 1
THOMPU | BAYER | 2
THOMPU | AHG | 3
THOMPU | BIO | 4
THOMPU | CRD | 5
THOMPU | MHD | 6
THOMPU | NST | 7
THOMPU | SSB | 8
THOMPU | SHD | 9
THOMPU | AND | 10
THOMPU | LBJ | 11
THOMPU | TU_ADMIN | 12
THOMPU | RLM | 13
THOMPU | PAC | 14
THOMPU | GAR | 15
THOMPU | MSB | 16
THOMPU | GRG | 17
THOMPU | PHD | 18
Type | Credit | Capital Cost | Annual Savings | Payback Period
Energy & Atmosphere
Prerequisite 1.0 | Fundamental Commissioning of the Building Energy Systems
Prerequisite 2.0 | Minimum Energy Performance
Prerequisite 3.0 | Fundamental Refrigerant Management
Credit 1.0 | Optimize Energy Performance | 45,345 | 13,250 | 3.4
Credit 2.0 | On-Site Renewable Energy | 67,890 | 21,500 | 3.2
Credit 3.0 | Enhanced Commissioning
Credit 4.0 | Enhanced Refrigerant Management | 13,890 | 2,450 | 5.7
Credit 5.0 | Measurement & Verification
Credit 6.0 | Green Power | 34,900 | 12,500 | 2.8
Indoor Environment Quality
Prerequisite 1.0 | Minimum IAQ Performance
Prerequisite 2.0 | Environmental Tobacco Smoke (ETS) Control
Credit 1.0 | Outdoor Air Delivery Monitoring
Credit 2.0 | Increased Ventilation
Credit 3.1 | Construction IAQ Management Plan, During Construction
Credit 3.2 | Construction IAQ Management Plan, Before Occupancy
Credit 4.1 | Low-Emittiing Materials, Adhesives & Sealants
Credit 4.2 | Low-Emitting Materials, Paints & Coatings
Credit 4.3 | Low-Emitting Materials, Carpet Systems
Credit 4.4 | Low-Emitting Materials, Composite Wood & Agrifiber Products
Credit 5.0 | Indoor Chemical & Pollutant Source Control
Credit 6.1 | Controllability of Systems, Lighting
Credit 6.2 | Controllability of Systems, Thermal Comfort
Credit 7.1 | Thermal Comfort, Design
Credit 7.2 | Thermal Comfort, Verification
Credit 8.1 | Daylight & Views, Daylight 75% of Spaces
Credit 8.2 | Daylight & Views, Views for 90% of Spaces
Innovation & Design Process
Credit 1.1 | Innovation in Design
Credit 1.2 | Innovation in Design
Credit 1.3 | Innovation in Design
Credit 1.4 | Innovation in Design
Credit 2.0 | LEED Accredited Professional
Materials & Resources
Prerequisite 1.0 | Storage & Collection of Recyclables
Credit 1.1 | Building Reuse, Maintain 75% of Existing Walls, Floors, Roof
Credit 1.2 | Building Reuse, Maintain 100% of Existing Walls, Fllors, Roof
Credit 1.3 | Building Reuse, Maintain 50% of Interior Non-Structural Elements
Credit 2.1 | Construction Waste Management, Divert 50% from Disposal
Credit 2.2 | Construction Waste Management, Divert 75% from Disposal
Done
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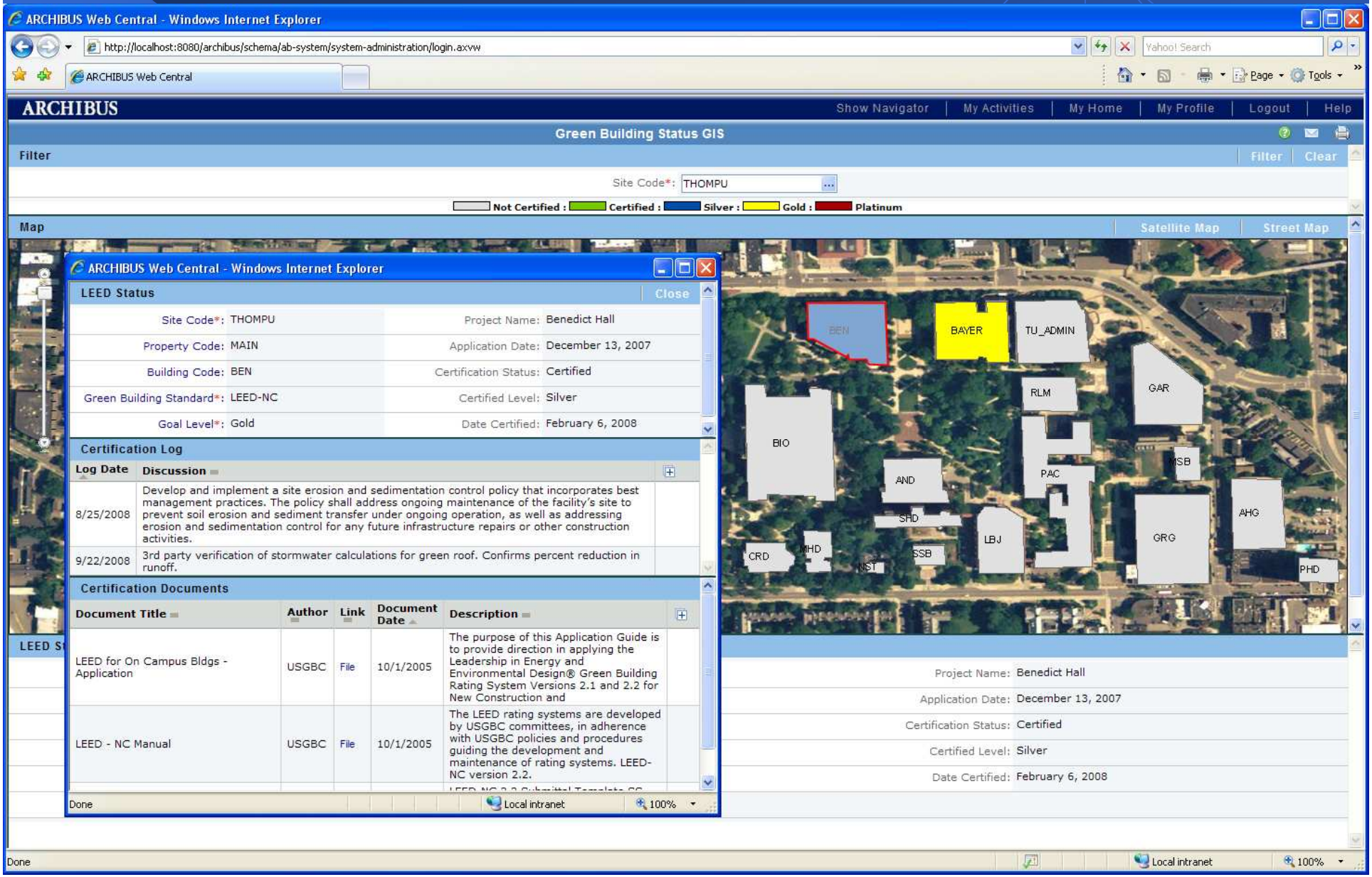
ARCHIBUS Web Central - Windows Internet Explorer
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ARCHIBUS Web Central
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Show Navigator | My Activities | My Home | My Profile | Logout | Help
Green Building Status GIS
Filter
Filter | Clear
Site Code*: THOMPU
Not Certified : Certified : Silver : Gold : Platinum
Map
Satellite Map | Street Map
ARCHIBUS Web Central - Windows Internet Explorer
LEED Status
Close
Site Code*: THOMPU
Project Name: Benedict Hall
Property Code: MAIN
Application Date: December 13, 2007
Building Code: BEN
Certification Status: Certified
Green Building Standard*: LEED-NC
Certified Level: Silver
Goal Level*: Gold
Date Certified: February 6, 2008
Certification Log
Log Date
Discussion
8/25/2008
Develop and implement a site erosion and sedimentation control policy that incorporates best management practices. The policy shall address ongoing maintenance of the facility's site to prevent soil erosion and sediment transfer under ongoing operation, as well as addressing erosion and sedimentation control for any future infrastructure repairs or other construction activities.
9/22/2008
3rd party verification of stormwater calculations for green roof. Confirms percent reduction in runoff.
Certification Documents
Document Title
Author
Link
Document Date
Description
LEED for On Campus Bldgs - Application
USGBC
File
10/1/2005
The purpose of this Application Guide is to provide direction in applying the Leadership in Energy and Environmental Design® Green Building Rating System Versions 2.1 and 2.2 for New Construction and
LEED - NC Manual
USGBC
File
10/1/2005
The LEED rating systems are developed by USGBC committees, in adherence with USGBC policies and procedures guiding the development and maintenance of rating systems. LEED-NC version 2.2.
Done
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BEN
BAYER
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RLM
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BIO
AND
PAC
MSB
SHD
LBJ
GRG
AHG
CRD
MHD
SSB
NST
PHD
Project Name: Benedict Hall
Application Date: December 13, 2007
Certification Status: Certified
Certified Level: Silver
Date Certified: February 6, 2008
Done
Local intranet
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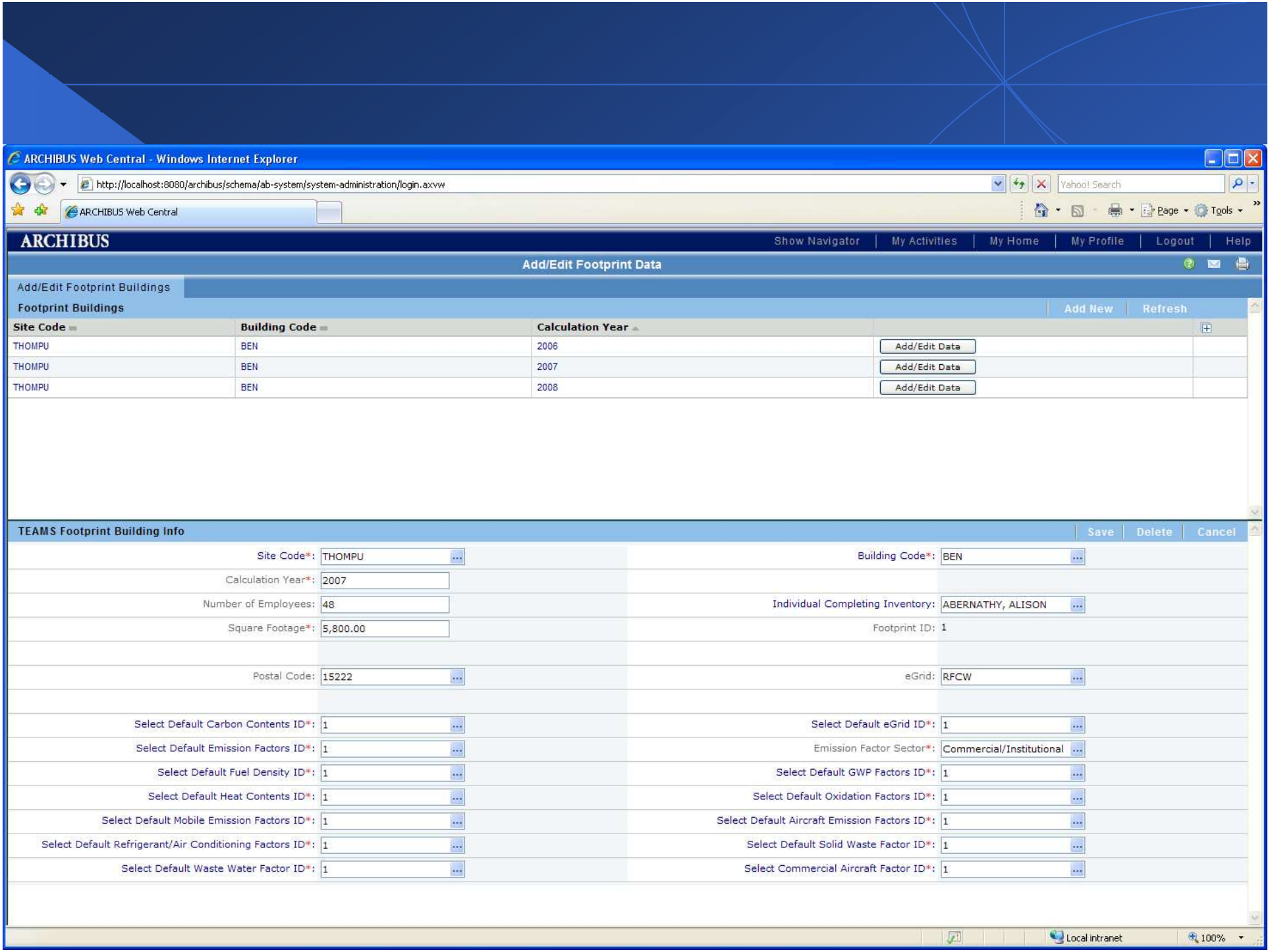
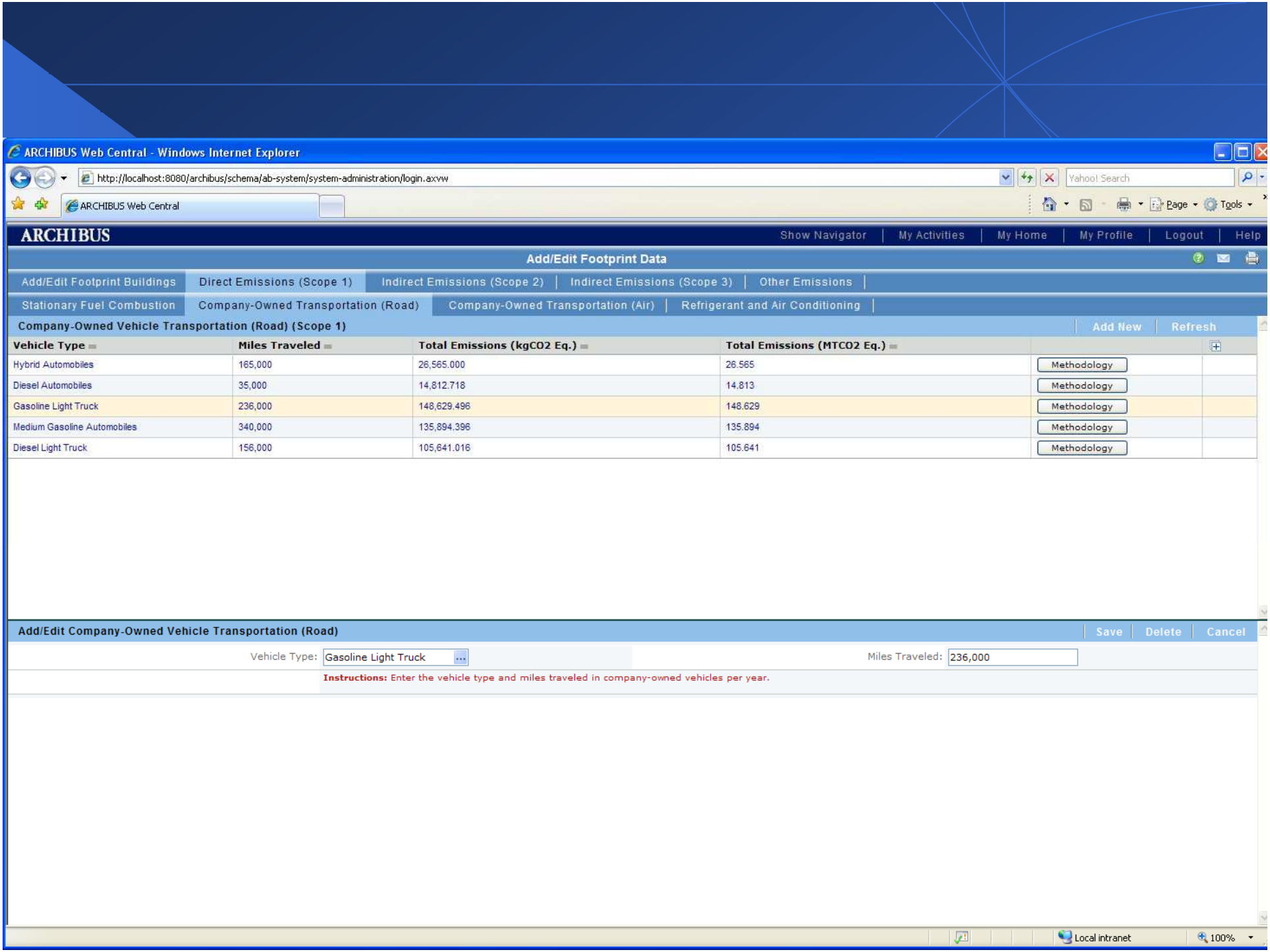
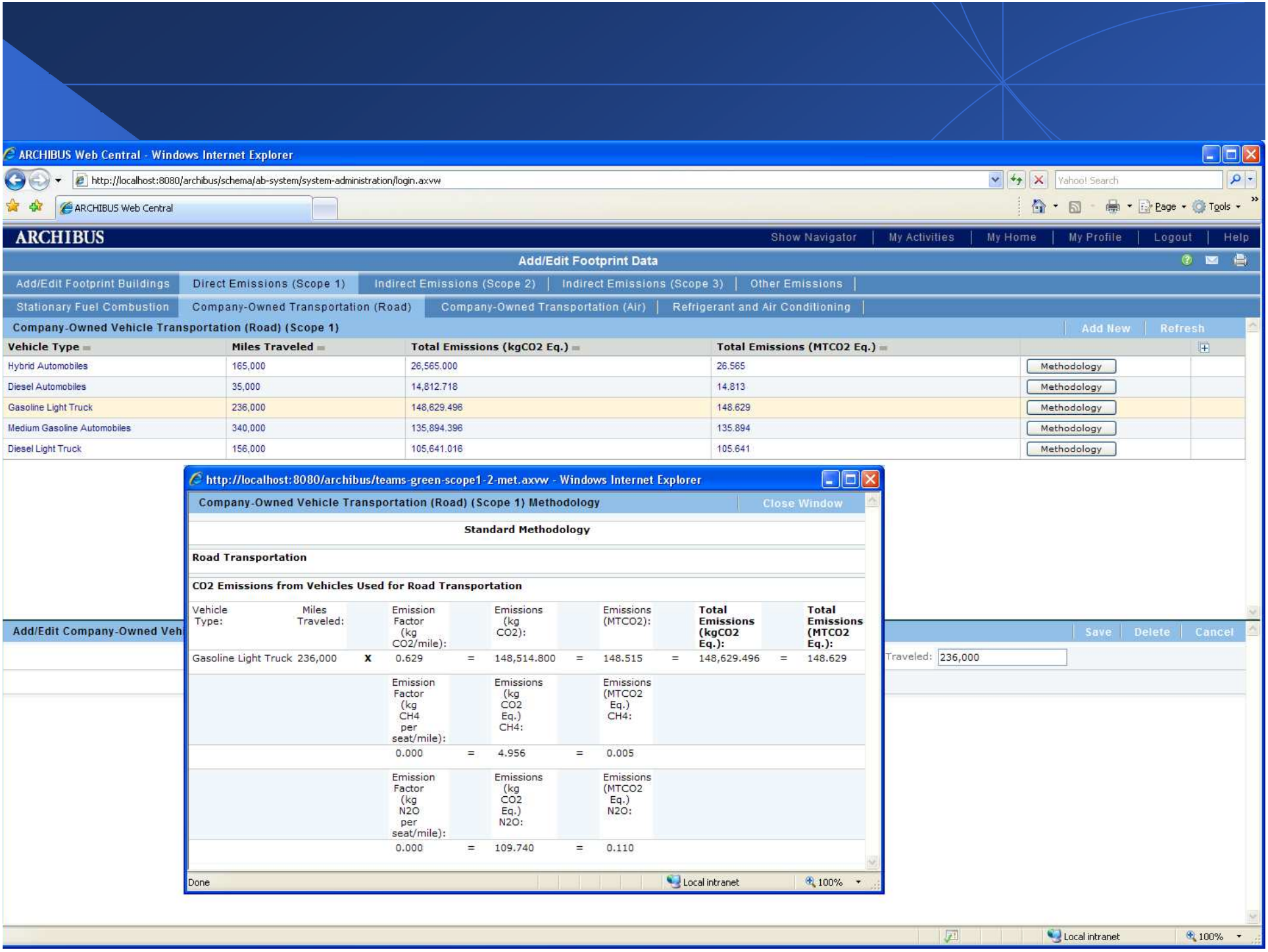

ARCHIBUS Web Central - Windows Internet Explorer
http://localhost:8080/archibus/schema/ab-system/system-administration/login.axvw
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Add/Edit Footprint Data
Add/Edit Footprint Buildings
Footprint Buildings
Add New | Refresh
Site Code | Building Code | Calculation Year
THOMPU | BEN | 2006 | Add/Edit Data
THOMPU | BEN | 2007 | Add/Edit Data
THOMPU | BEN | 2008 | Add/Edit Data
TEAMS Footprint Building Info
Save | Delete | Cancel
Site Code*: THOMPU
Building Code*: BEN
Calculation Year*: 2007
Number of Employees: 48
Individual Completing Inventory: ABERNATHY, ALISON
Square Footage*: 5,800.00
Footprint ID: 1
Postal Code: 15222
eGrid: RFCW
Select Default Carbon Contents ID*: 1
Select Default eGrid ID*: 1
Select Default Emission Factors ID*: 1
Emission Factor Sector*: Commercial/Institutional
Select Default Fuel Density ID*: 1
Select Default GWP Factors ID*: 1
Select Default Heat Contents ID*: 1
Select Default Oxidation Factors ID*: 1
Select Default Mobile Emission Factors ID*: 1
Select Default Aircraft Emission Factors ID*: 1
Select Default Refrigerant/Air Conditioning Factors ID*: 1
Select Default Solid Waste Factor ID*: 1
Select Default Waste Water Factor ID*: 1
Select Commercial Aircraft Factor ID*: 1
Local intranet
100%


ARCHIBUS Web Central - Windows Internet Explorer
http://localhost:8080/archibus/schema/ab-system/system-administration/login.axvw
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Add/Edit Footprint Data
Add/Edit Footprint Buildings | Direct Emissions (Scope 1) | Indirect Emissions (Scope 2) | Indirect Emissions (Scope 3) | Other Emissions
Stationary Fuel Combustion | Company-Owned Transportation (Road) | Company-Owned Transportation (Air) | Refrigerant and Air Conditioning
Company-Owned Vehicle Transportation (Road) (Scope 1)
Add New | Refresh
Vehicle Type | Miles Traveled | Total Emissions (kgCO2 Eq.) | Total Emissions (MTCO2 Eq.)
Hybrid Automobiles | 165,000 | 26,565.000 | 26.565 | Methodology
Diesel Automobiles | 35,000 | 14,812.718 | 14.813 | Methodology
Gasoline Light Truck | 236,000 | 148,629.496 | 148.629 | Methodology
Medium Gasoline Automobiles | 340,000 | 135,894.396 | 135.894 | Methodology
Diesel Light Truck | 156,000 | 105,641.016 | 105.641 | Methodology
Add/Edit Company-Owned Vehicle Transportation (Road)
Save | Delete | Cancel
Vehicle Type: Gasoline Light Truck
Miles Traveled: 236,000
Instructions: Enter the vehicle type and miles traveled in company-owned vehicles per year.
Local intranet
100%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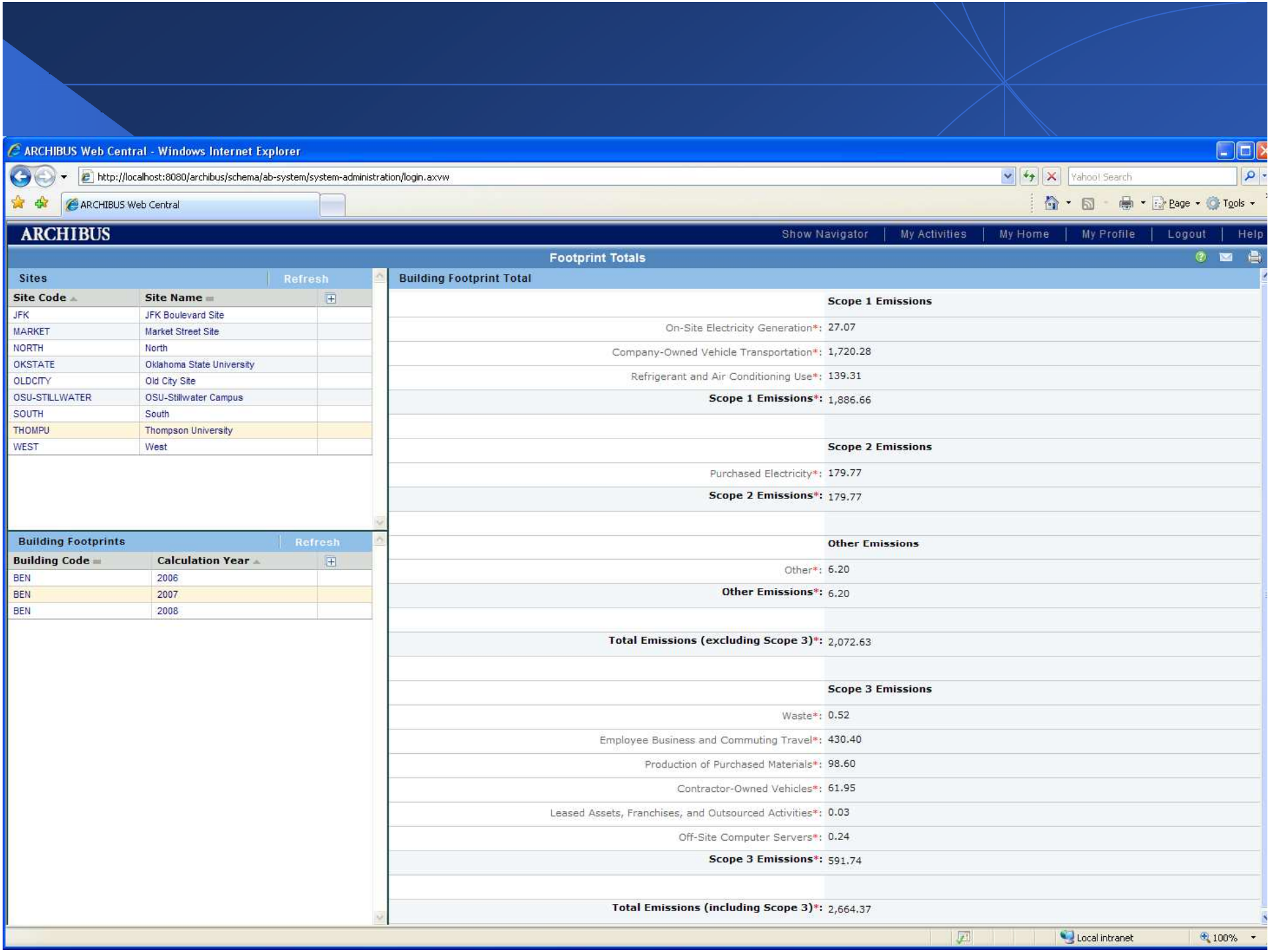
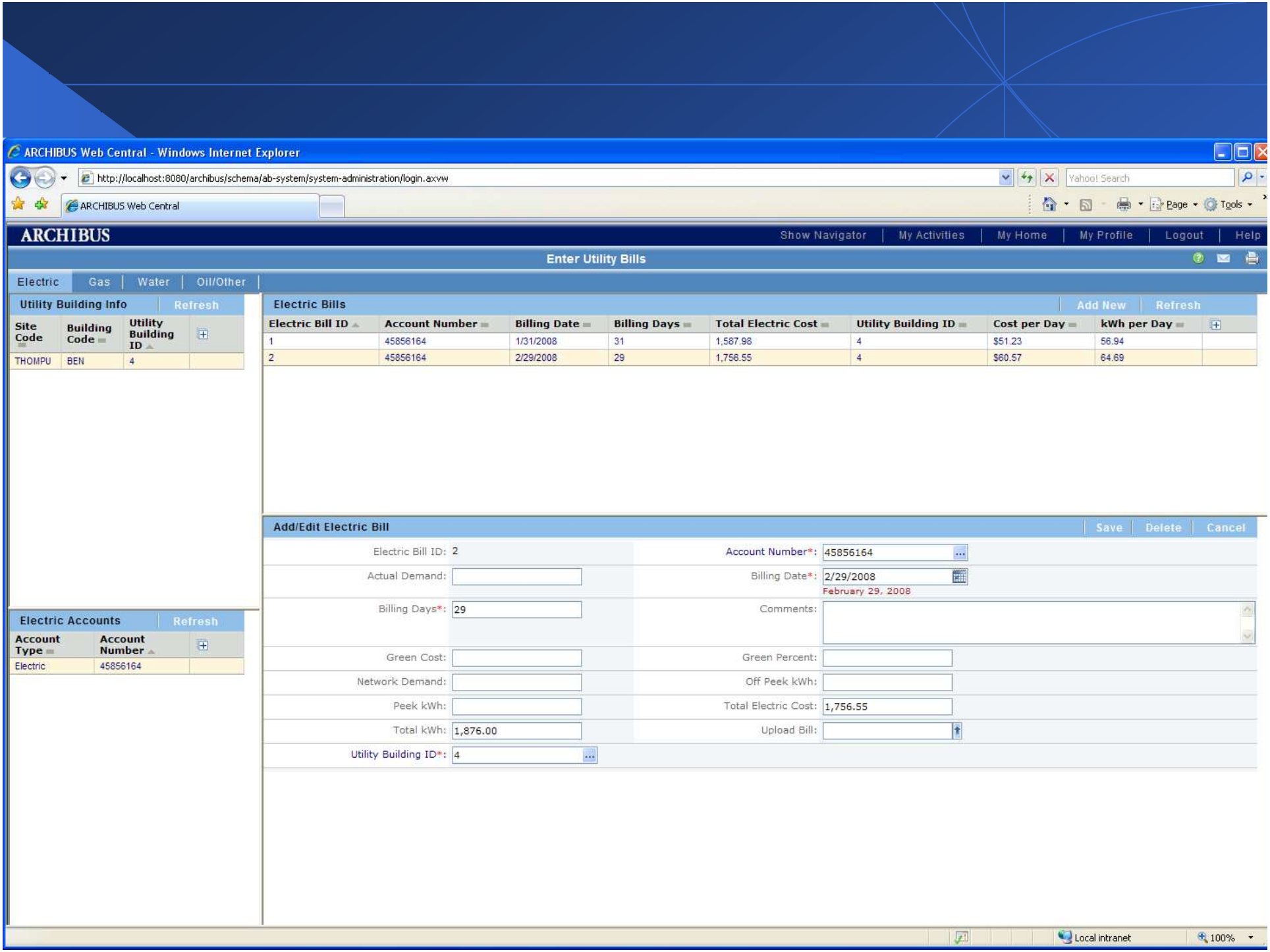
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Add/Edit Footprint Data
Add/Edit Footprint Buildings | Direct Emissions (Scope 1) | Indirect Emissions (Scope 2) | Indirect Emissions (Scope 3) | Other Emissions
Stationary Fuel Combustion | Company-Owned Transportation (Road) | Company-Owned Transportation (Air) | Refrigerant and Air Conditioning
Company-Owned Vehicle Transportation (Road) (Scope 1)
Add New | Refresh
Vehicle Type | Miles Traveled | Total Emissions (kgCO2 Eq.) | Total Emissions (MTCO2 Eq.)
Hybrid Automobiles | 165,000 | 26,565.000 | 26.565 | Methodology
Diesel Automobiles | 35,000 | 14,812.718 | 14.813 | Methodology
Gasoline Light Truck | 236,000 | 148,629.496 | 148.629 | Methodology
Medium Gasoline Automobiles | 340,000 | 135,894.396 | 135.894 | Methodology
Diesel Light Truck | 156,000 | 105,641.016 | 105.641 | Methodology
http://localhost:8080/archibus/teams-green-scope1-2-met.axvw - Windows Internet Explorer
Company-Owned Vehicle Transportation (Road) (Scope 1) Methodology
Close Window
Standard Methodology
Road Transportation
CO2 Emissions from Vehicles Used for Road Transportation
Vehicle Type: Miles Traveled: Emission Factor (kg CO2/mile): Emissions (kg CO2): Emissions (MTCO2): Total Emissions (kgCO2 Eq.): Total Emissions (MTCO2 Eq.):
Gasoline Light Truck 236,000 X 0.629 = 148,514.800 = 148.515 = 148,629.496 = 148.629
Emission Factor (kg CH4 per seat/mile): Emissions (kg CO2 Eq.) CH4: Emissions (MTCO2 Eq.) CH4:
0.000 = 4.956 = 0.005
Emission Factor (kg N2O per seat/mile): Emissions (kg CO2 Eq.) N2O: Emissions (MTCO2 Eq.) N2O:
0.000 = 109.740 = 0.110
Done
Local intranet
100%
Add/Edit Company-Owned Veh
Save | Delete | Cancel
Traveled: 236,000
Local intranet
100%


ARCHIBUS Web Central - Windows Internet Explorer
http://localhost:8080/archibus/schema/ab-system/system-administration/login.axvw
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Footprint Totals
Sites
Refresh
Site Code | Site Name
JFK | JFK Boulevard Site
MARKET | Market Street Site
NORTH | North
OKSTATE | Oklahoma State University
OLDCITY | Old City Site
OSU-STILLWATER | OSU-Stillwater Campus
SOUTH | South
THOMPU | Thompson University
WEST | West
Building Footprints
Refresh
Building Code | Calculation Year
BEN | 2006
BEN | 2007
BEN | 2008
Building Footprint Total
Scope 1 Emissions
On-Site Electricity Generation*: 27.07
Company-Owned Vehicle Transportation*: 1,720.28
Refrigerant and Air Conditioning Use*: 139.31
Scope 1 Emissions*: 1,886.66
Scope 2 Emissions
Purchased Electricity*: 179.77
Scope 2 Emissions*: 179.77
Other Emissions
Other*: 6.20
Other Emissions*: 6.20
Total Emissions (excluding Scope 3)*: 2,072.63
Scope 3 Emissions
Waste*: 0.52
Employee Business and Commuting Travel*: 430.40
Production of Purchased Materials*: 98.60
Contractor-Owned Vehicles*: 61.95
Leased Assets, Franchises, and Outsourced Activities*: 0.03
Off-Site Computer Servers*: 0.24
Scope 3 Emissions*: 591.74
Total Emissions (including Scope 3)*: 2,664.37
Local intranet
100%


ARCHIBUS Web Central - Windows Internet Explorer
http://localhost:8080/archibus/schema/ab-system/system-administration/login.axvw
ARCHIBUS Web Central
ARCHIBUS
Show Navigator | My Activities | My Home | My Profile | Logout | Help
Enter Utility Bills
Electric | Gas | Water | Oil/Other
Utility Building Info | Refresh
Site Code | Building Code | Utility Building ID
THOMPU | BEN | 4
Electric Accounts | Refresh
Account Type | Account Number
Electric | 45856164
Electric Bills | Add New | Refresh
Electric Bill ID | Account Number | Billing Date | Billing Days | Total Electric Cost | Utility Building ID | Cost per Day | kWh per Day
1 | 45856164 | 1/31/2008 | 31 | 1,587.98 | 4 | $51.23 | 56.94
2 | 45856164 | 2/29/2008 | 29 | 1,756.55 | 4 | $60.57 | 64.69
Add/Edit Electric Bill | Save | Delete | Cancel
Electric Bill ID: 2
Account Number*: 45856164
Actual Demand:
Billing Date*: 2/29/2008
February 29, 2008
Billing Days*: 29
Comments:
Green Cost:
Green Percent:
Network Demand:
Off Peek kWh:
Peek kWh:
Total Electric Cost: 1,756.55
Total kWh: 1,876.00
Upload Bill:
Utility Building ID*: 4
Local intranet
100%

- Website(s)

  www.asc-teams.com

  www.archibus.com

- For additional information, please contact:

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ESRI Geospatial and Autodesk Revit Facility Management Applications

- www.archibus.com

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Thank You for Attending this Session

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